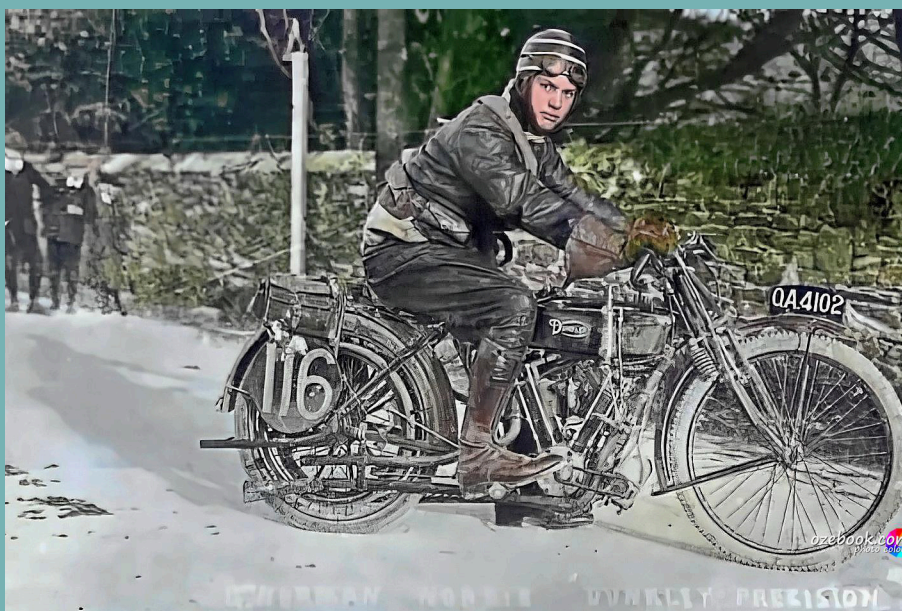


TIMELINE OF MOTORCYCLING

Volume Four

1916 - 1919



**Compiled & edited by
Dave Richmond**

Compiled, edited and written by Dave Richmond
motorcycletimeline.com

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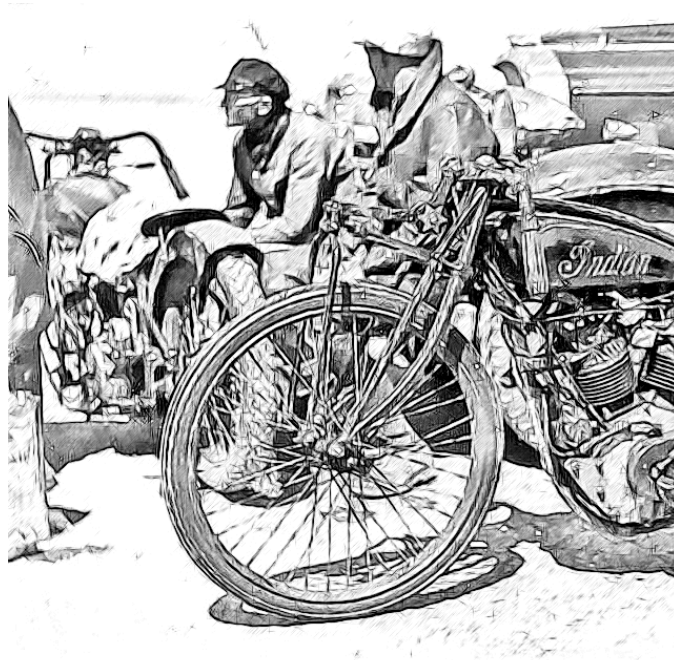
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1915 - 1919



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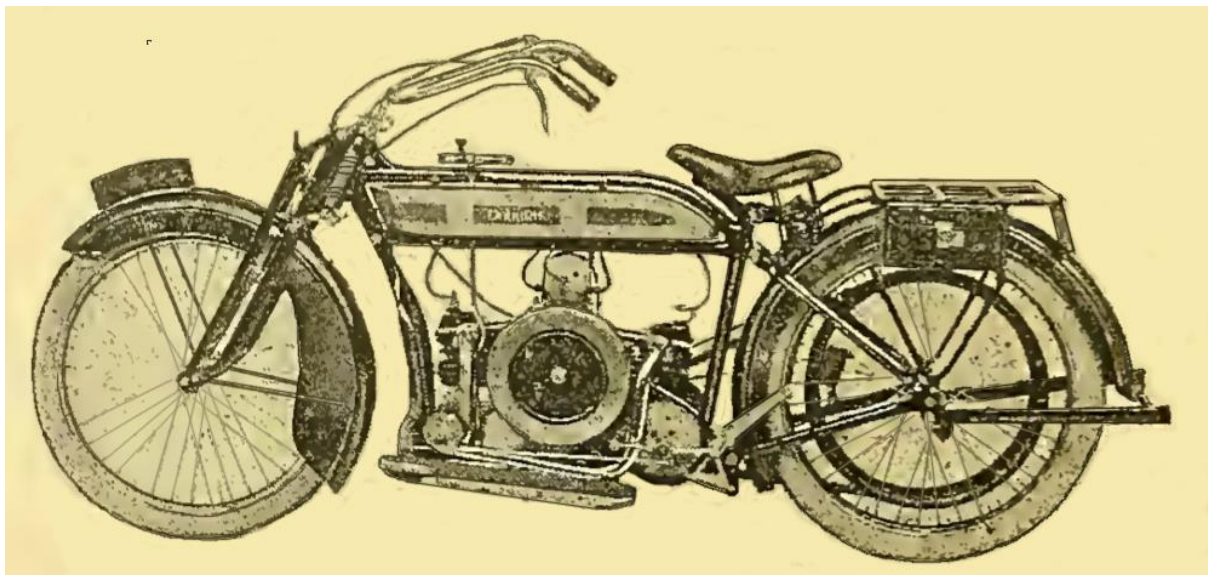
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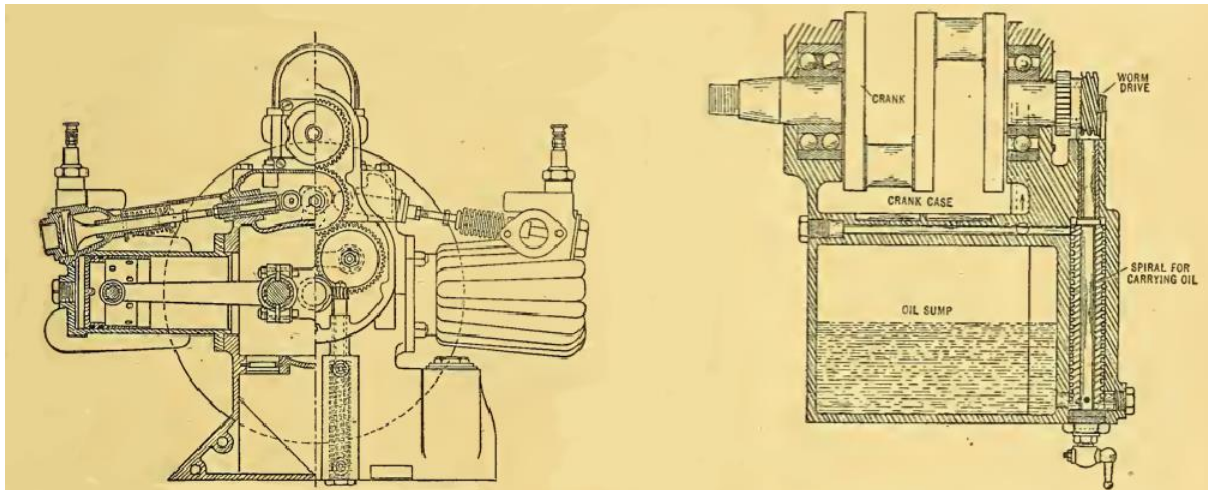
1915

TRIUMPH'S RACE PROVEN 499cc side-valve single, the 'Trusty', introduced many servicemen to motorcycling; more than 20,000 were supplied to the British armed forces with another 10,000 going to our allies. It started the war as a single-speeder but soon gained a three-speed Sturmey Archer box and kickstart. About 25,000 flat-twin Douglases were also supplied to the military. Most were two-speed 350s but a number of 594cc models were also supplied for sidecar work. The Bristol factory also produced generator engines. The RFC opted for P&Ms; Scott, Clyno and Royal Enfield combos equipped the Machine Gun Battalions and were also pressed into use as ambulances. Military contracts were also issued to AJS, New Imperial, Matchless, Premier, Rover, Rudge, Sunbeam and Zenith.

DOUGLAS FOLLOWED THE trend towards more cc and more power with a 594cc 4hp twin. I bought my machine for solo work," Ixion reported, "and have been charmed by the ease with which it responds to its kick-starter, in which respect it easily excels and single-cylinder I have owned." He was also impressed by the uprated lubrication system: "The oil is carried in a sump which is an extension of the crank case, no oil being carried in the tank, which is reserved for petrol only...The method of lubrication is very simple and effective, as well as being practically foolproof. When the oil is placed in the sump beneath the crank case the rider can dismiss the question of lubrication from his mind until he has travelled 500 miles or so, but it is better to add a little oil at more frequent intervals...The oil is raised from the sump by an elevator on the Archimedeian screw principle to troughs into which the big ends dip. These throw the oil into the cylinders, whence channels convey it to the other bearings. The surplus drains back through a filter composed of two gauzes into the reservoir for future use...Acceleration is quite a unique feature; the engine is much better silenced than the 2¾hp of the same make, whilst retaining its balance—in fact, I think its balance is better, and, excluding very low rates of revolution, for which I have not yet tuned it up to my satisfaction, the running is more reminiscent of a steam turbine than any motor cycle engine I have yet handled. Increasing wind pressure on the cheeks is the most pronounced sensation as the throttle is opened..."



The bigger Douglas earned Ixion's admiration, and was equally at home as a fast solo or dependable sidecar hauler.



Left: The revamped Douglas engine featured enclosed valve stems and springs. Right: The recirculating lubrication system was state of the art.



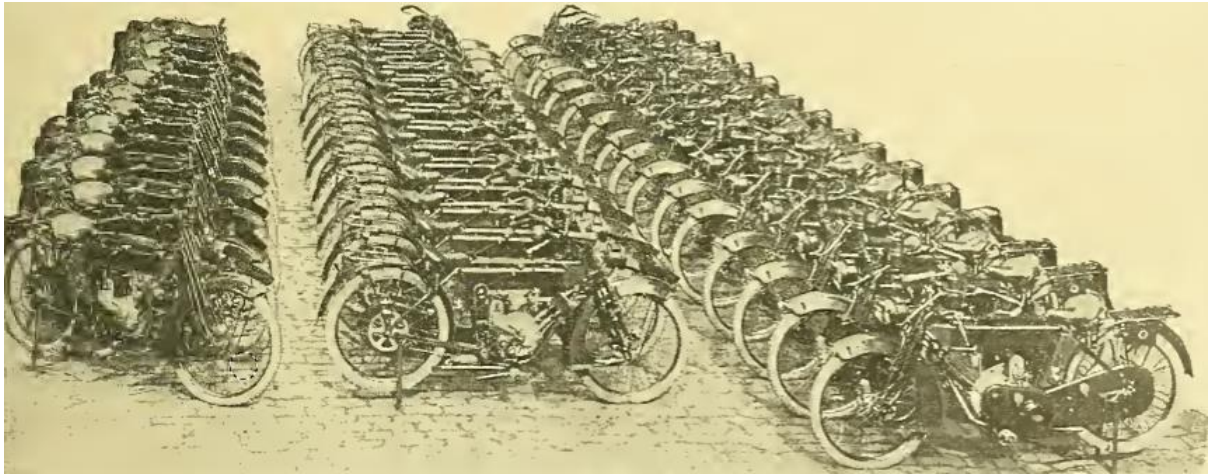
The army soldiered on with Douglasses and Triumphs; the RFC relied on P&Ms.



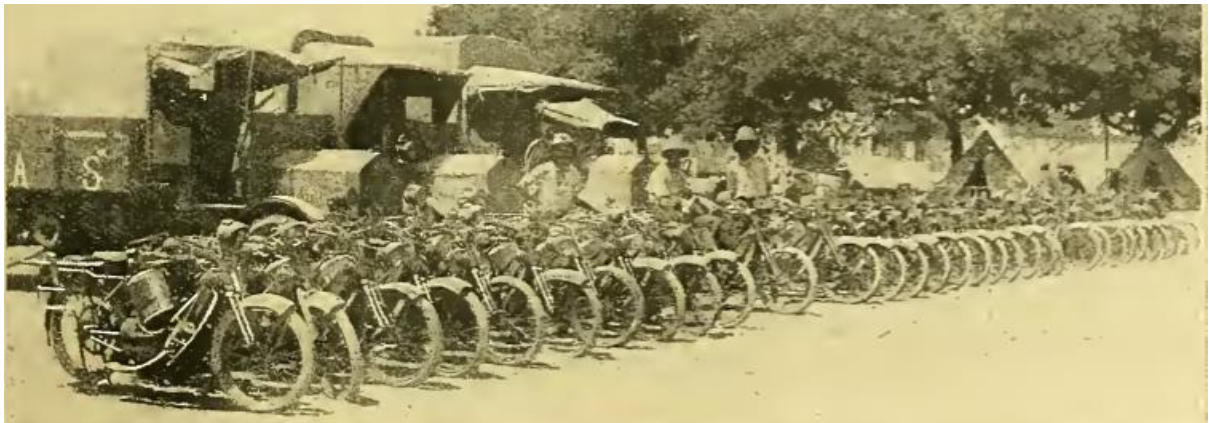
Not all dispatch riders were bogged down in France. These DRs with the Fifth Australian Light Horse rode their Beezas in Egypt.



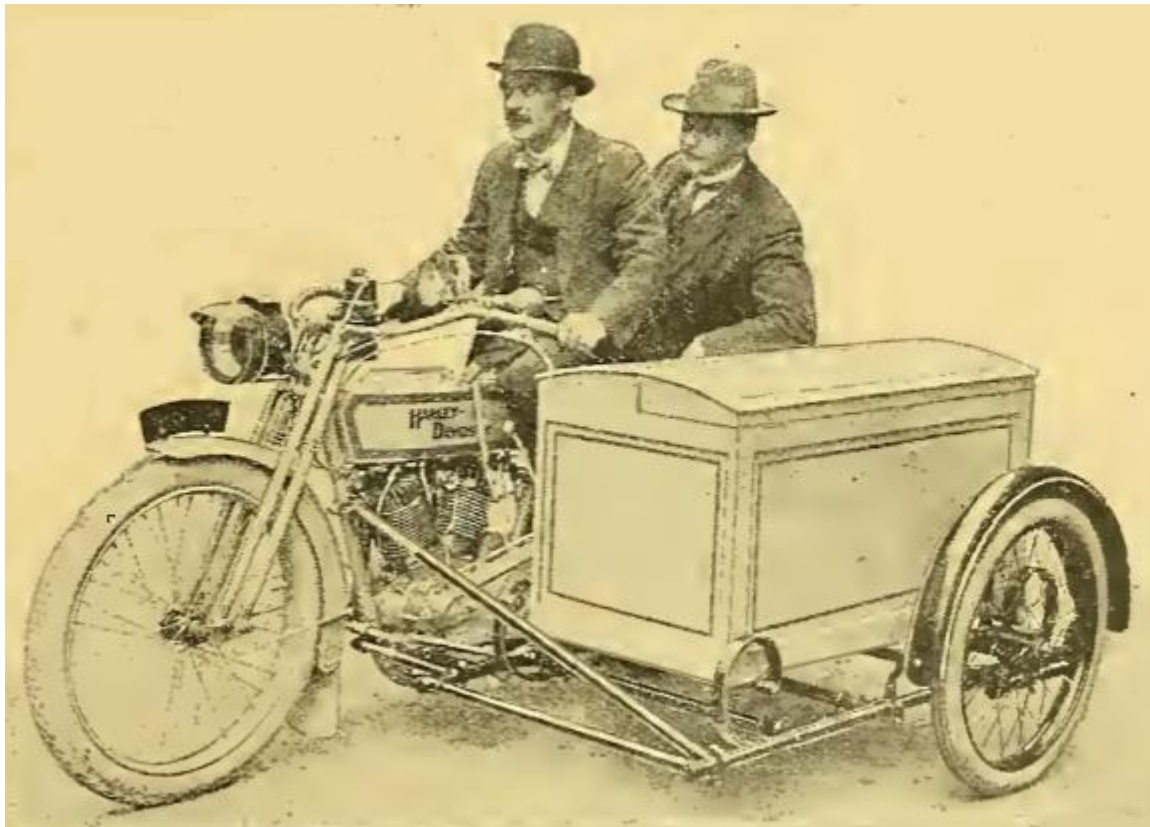
Tommies at Gallipoli with their 2 $\frac{3}{4}$ hp Duggies. The British Army began the war with 15 motorcycles. By 1918 they had 34,000.



“One week’s delivery for the military wing of the Royal Flying Corps. A batch of over forty P&M motor cycles fitted out complete with lamp, horn, and Kempshall tyres. They are of dull finish, with the exception of crank case and sundry parts. It may be added that the RFC already have over 500 P&Ms in use.”



The Royal Navy Air Service had a penchant for Scotts; this“ line-up was “photographed somewhere in the Near East”.



“One of a fleet of 56 Harley-Davidson sidecarriers supplied by Messrs Robertsons to the Russian Government for the transport of ammunition, petrol, and oil Capt Korotkevich, the Russian Government’s representative, is seated on the carrier.”



This postcard, depicting a French despatch rider despatching six ‘allemands’ was clearly designed to please the home front.



And here's the reality: French dispatch riders on the Western Front.



"A Clyno machine-gun outfit traversing a rough track."

THE TT WAS SUSPENDED FOR THE DURATION but in August the BMRC staged an All Khaki meeting at Brooklands. "Everything went off without a hitch; even the weather, which had been unpropitious in the morning, cleared up after noon, and the sun shone brightly after lunch. The difficulties of organisation were great. The only available portion of the track was the railway straight, and so there was no proper enclosure for the spectators. Experienced officials, owing to many of them having received their



From left: 2nd Lt G Barnard (3½hp Sunbeam) won The MotorCycle Cup; Cpl A Ward (New Hudson) won the lightweight race; Cpl FE Barker (Zenith), won three events.

country's call, were few and far between, so the marshalling of the competitors and the keeping of the spectators off the track was by no means an easy matter. However, all the events were most successfully run off. The half-mile sprint races were started from one of the telephone boxes near the flying ground, and the l'aces were run towards the members' bridge. The finish was marked by the timing box on wheels known as the "bathing machine," which is so familiar a feature at BMCRC meetings...no less than 190 being received. Thanks to Mr. Houghton, six stalwart sergeants of the 25th Div Cyclist Company carried out the marshalling in a most efficient manner, while the spectators, being mostly soldier men, obeyed with alacrity...The spectators were an interesting crowd, and consisted mostly of members of the British Army of all grades, ranks, and branches, men of the Royal Naval Air Service—the armoured car section—and other branches of the Senior Service, while the drab but businesslike khaki was relieved by the light blue uniforms of interested convalescents from the St. George's Hill Hospital, Weybridge...In the lightweight sprint (two-strokes not exceeding 270cc) Cpl Ward RF (New Hudson) romped home an easy winner...Then came a 'one-design' affair open to 2¾hp (349cc) Douglas motor cycles. It was won quite easily by Lt LA Fedden ASC at 41.47mph...An excellent entry was received for the medium-weight half-mile sprint



Artist's impression of sidecars at speed on the Brooklands straight.

(up to 550cc), won by 2nd Lt G Barnard RE (499cc Sunbeam) whose Sunbeam was a perfect mount superbly handled which carried its owner to victory on more than one occasion...For the quick-change plug race spare plugs in envelopes with the competitor's numbers on them were laid at intervals on the finishing line. Competitors raced from the start, changed plugs, and sprinted back to the starting point. It was an exciting and amusing affair. Most people badly over-shot the mark, while one or two seized the wrong plug...the unlimited half-mile sprint for motor cycles not exceeding 1,000cc was won by A McColl (motor cyclist, RE) on the twin Matchless which formerly belonged to Charlie Collier...Everyone quickly evacuated the railway straight and made for the test hill [for] the junior hill-climb for motorcycles not exceeding 350cc...25 yards

start was allowed. First was Cpl FE Barker, ASC, one hos 349cc Zenith twin [who beat an Army Cyclist Corps captain and two ASC lieutenants, all on 349cc Douglasses]...the Serpentine Slow Race was an interesting and amusing affair. The competitors had to ride as slowly as possible in and out of the natural obstacles provided by the sheds of the paddock. The test of skill was rendered the more difficult owing to the fact that that part of the paddock leading to



From left: Assistant Paymaster CP Marcel RNR (Indian) tackles the serpentine race in and out of the car sheds; Changing plugs during the 'finger burning' event.

the flying ground was in a bad condition, and the places where the cement had given way had been filled in with loose gravel. Any competitor who put foot to the ground was disqualified. Barnard, the winner, used his clutch magnificently, and made extraordinarily slow time, which is all the more to his credit, as he won the medium-weight sprint on the same machine...1, G Barnard (2nd Lt RE, 499cc Sunbeam) 3min 6.4sec; 2, OJS Scholte (2nd Lt 3rd Bedfords, Harley Davidson twin) 2min 34.8sec; 3, H Walker (2nd Lt, 25th Div Cyclist Co, Enfield twin) 1min 53sec. A great success! That was the consensus of opinion of those who witnessed the first Brooklands meeting for not only khaki-clad men but 'sons of the sea'—but British all of them...Many of the competitors had never ridden in a race before, some had never seen Brooklands, and up and down the track they careered like boys let loose. They bobbed up from everywhere. What an anxious time the officials had!...Just before the start one competitor, recognising a well known official of a leading company, enquired how to tune his



From left: Start of the sidecar race that was won by Cpl FE Barker (8hp Zenith); Cpl Barker and his Zenith again, in the unlimited hill-climb.

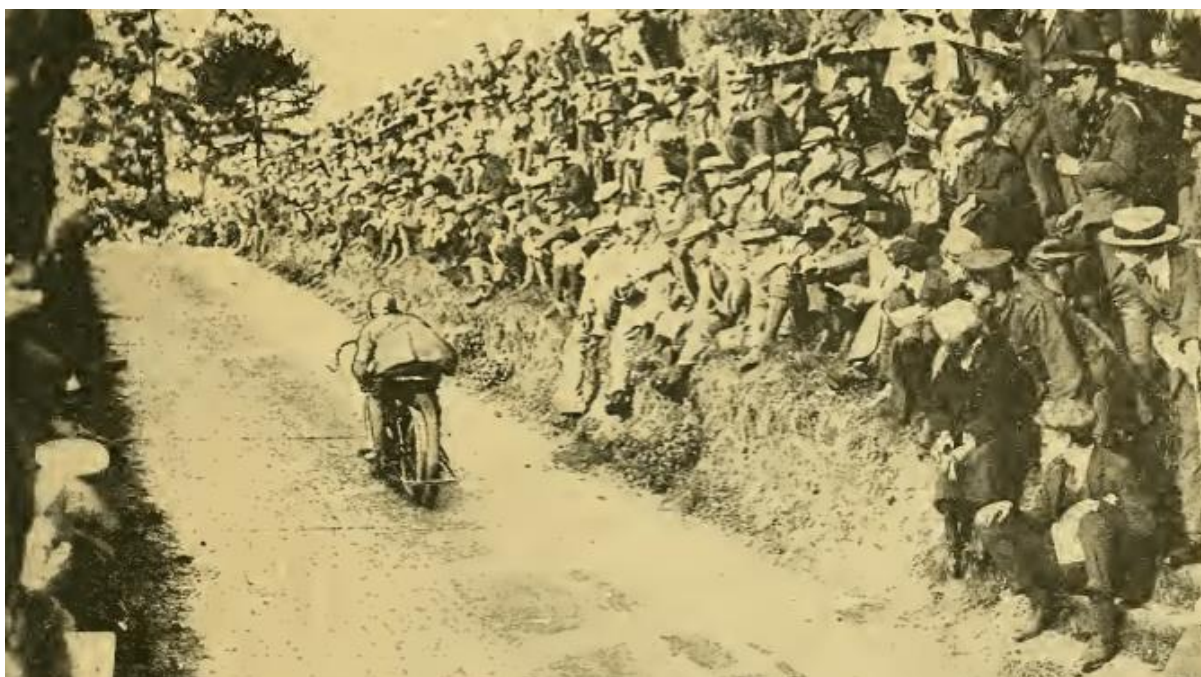
machine up for speed. He was recommended to remove the mudguards, which he did in quick time...There were some cunning men in the plug changing or 'finger burning' contest. Several never used a spanner at all; they had fitted the plug loosely in the cylinder, and after riding the course exchanged it with the fingers. Quite simple; the times as a result were wonderfully quick...Those who tried the whole of the track were amazed at the size and depth of the holes caused by the passage of motor lorries to and from the flying sheds. It will take weeks and the

outlay of much money to put it into order again...Both naval and military men figured among the prize winners...A jollier and more healthy-looking lot of competitors never gathered together. When Mr Loughborough called for a naval winner to come and take his prize from Mrs Nicholl, 'Aye aye, sir,' was the ready response...Anyone in civilian attire felt quite 'out of it' at Brooklands on Saturday...Among competitors and spectators one recognised many old Brooklands habitués and Six Days Trials riders, but in very different attire from those good days."



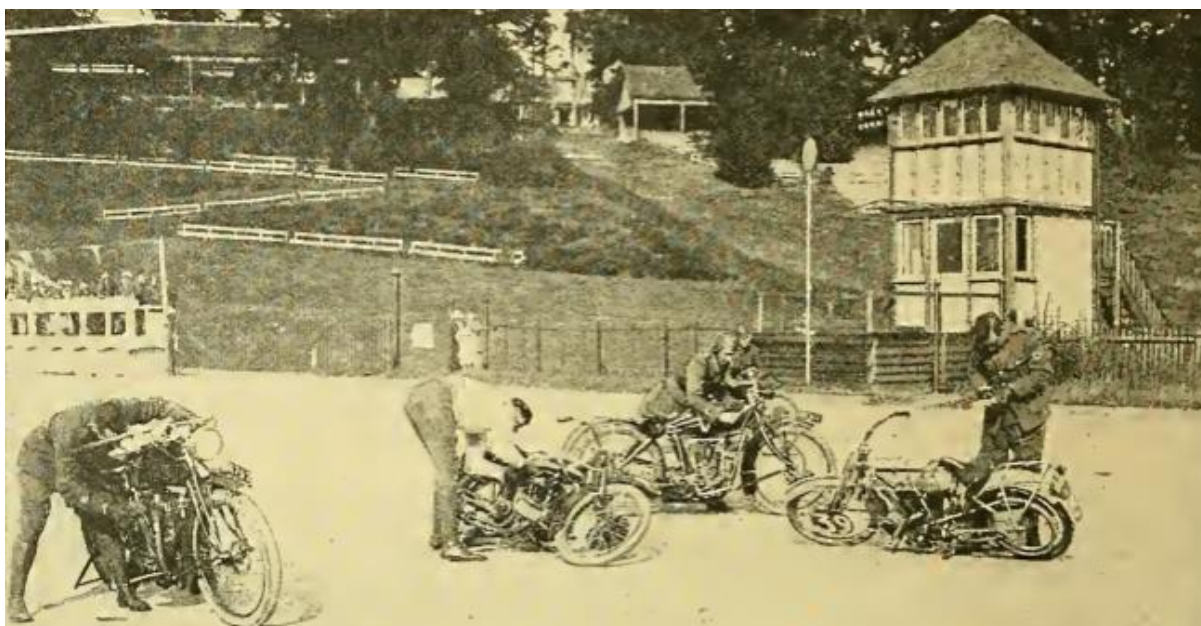
"Private WJ Reid, of the Royal Fusiliers, bringing his 7hp Indian up the test hill in the unlimited hill-climb."

WITHIN WEEKS OF THE ALL-KHAKI bash Brooklands hosted a follow-up event, The United Services Motor Cycle Race Meeting: "The paddock was packed with motor cycles, cycle cars, and cars, of all makes, sizes, types, and dates. Viewed from afar, the crowd assumed that drab neutral tint which showed that it consisted mainly of the soldier element. Nevertheless, the dull, businesslike colour was relieved by the bright dresses of the ladies, the blue of the brave wounded from St George's Hill, the uniform of a Royal Naval officer, and the light blue-grey of a Flying Corps man of the French Army...The Serpentine Fast Race, open to solo motor cycles of any description, was a most interesting affair, and called for an excessive amount of skill. Barriers six feet apart were placed in sets of four at two intervals on the half-mile available, and competitors had to ride between them. Touching the ground with the foot was forbidden. Lieut Boston, GHQ Staff (AJS), stopped and dropped his machine. Lce-Corpl Thompson, RE (Douglas), rode with



“General scene at the hill-climbing contest, looking towards the top of the hill. Lieut FMC Houghton (the officer who suggested the All-khaki event to The Motor Cycle) is seen at full speed on his Rudge.”

consummate skill and was heartily cheered. His performance was quite the neatest, and he was only beaten by engine power. Sergt Milner, RE (Diamond), touched a barrier. Corpl Hodgson, RE (ABC), also failed. PO Kingdon, RNAS (Douglas), stopped his engine. Corpl Wright, ASC (Triumph), made quite a good performance. Art Mech CF Mossman (Zenith) touched a barrier. 2nd Lieut FMC Houghton, 25th Div Cyclist Co (Rudge), rode well, scraping the ground at intervals with his footrests. Assistant-Paymaster CP Marcel, RNR (Indian), rode with considerable skill. Pte Charlesworth, N London OTC (Zenith), fell. 2nd Lieut OJF Scholte, 3rd Beds. (Indian), made an excellent performance, which was heartily applauded. Of the two remaining competitors, one touched the ground with his feet, and the other stopped his engine. Results: 1, OJF Scholte, 2nd Lt 3rd Beds (994cc Indian twin). 2, T Thompson, Lance-Corpl RE (349cc Douglas twin). 3, CP Marcel, Asst Paymaster RM (994cc Indian twin)...The variety of makes in the paddock was extraordinary, [including an] American newcomer, the Yale, ridden by an RFC man. It had most peculiar handle-bars, and plated radiating fins cast horizontally like the Motosacoche. The overhead inlet valve was neatly enclosed...The best known member of the Royal Naval Volunteer Reserve was our old friend Lieut FA McNab. He has a real taste for the sea, and looks a real sailor. He was riding poor Jake de Rosier's twin-cylinder Indian. the meeting was organised chiefly for the competitors, who were all of the fighting forces (on this occasion the Royal Navy was well represented), and they really enjoyed themselves. The weather, too, was kind, and glorious sunshine favoured the whole of the meeting...

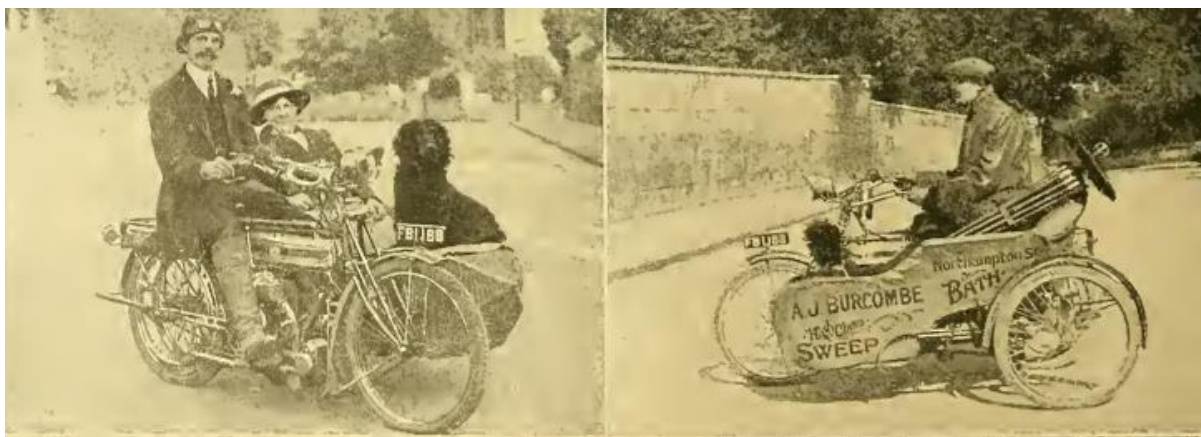


“An amusing event: busy with really hot sparking plugs in the Plug Changing Contest. Most of the competitors wisely wore thick gloves.”

EDWARD TURNER, LATER to become a leading light in the industry, started his motorcycling career aboard a New Imperial Light Tourist.

THE FEDERATION OF AMERICAN Motorcyclists (FAM) listed 8,247 members.

BSA BUILT A FOUR-STOREY factory to accommodate huge production increases during the war. True to its small-arms roots BSA (let's not forget that crossed-rifles logo) was soon busy making guns; particularly lightweight Lewis machine guns.



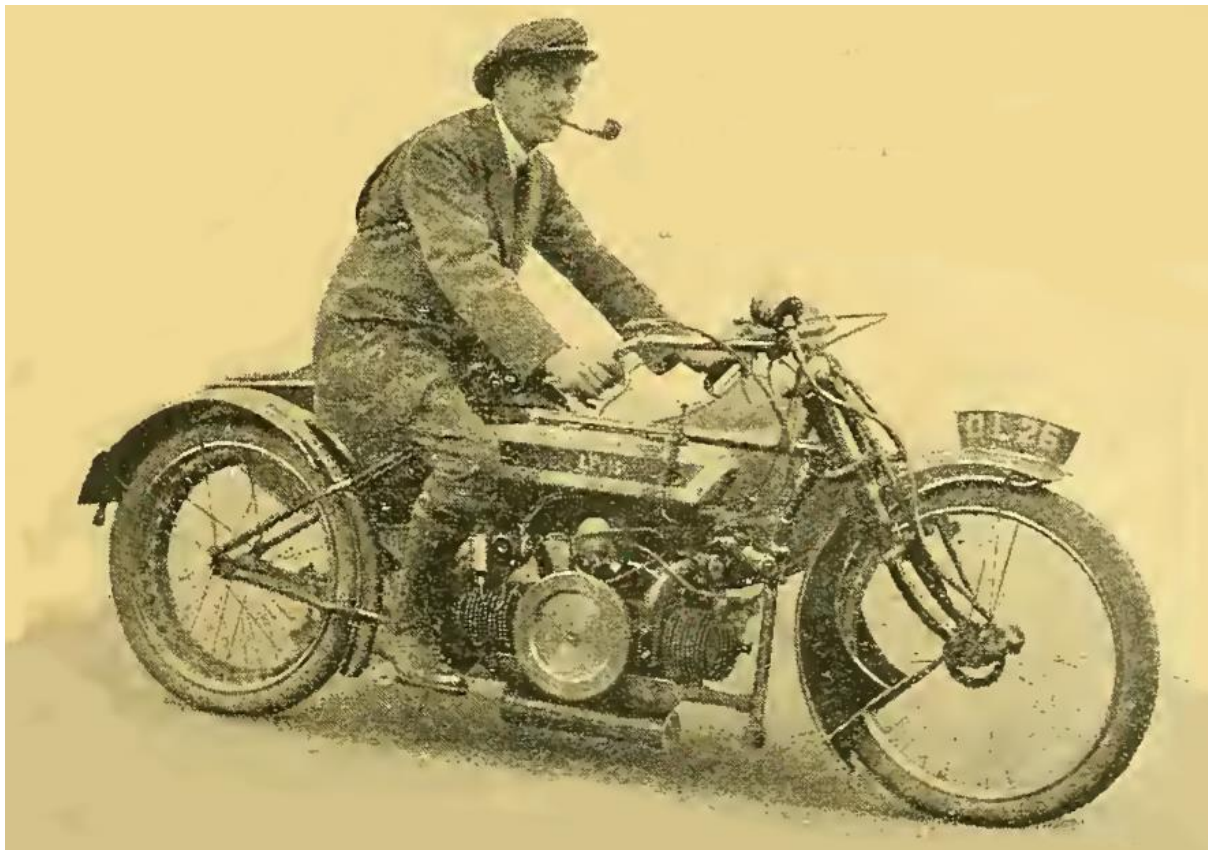
“A novel way of converting a sidecar for business use is shown in these pictures of a Triumph outfit belonging to AJ Burcombe, who carries on a sweep's business at Bath. The same sidecar is used for both pleasure and business; for the latter, the cushion and apron are removed and the sidecar covered with a special waterproof canvas cover made at a cost of a few shillings.”

THE FIRST STOP LIGHTS were fitted to American cars.

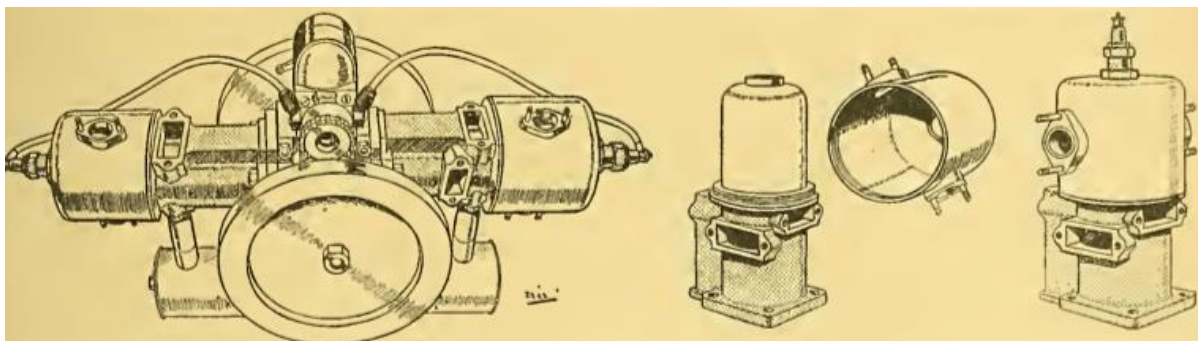
AS THE MAJOR PLAYERS switched to military work a clutch of small firms leapt into the breach, meeting the demand for utility civilian transport with a range of lightweights. Many of these bikes were rushed to the market with proprietary engines: two strokes from the likes of Villiers, Liberty, Dalm, Metro and Peco or four strokes from JAP, Precision and Blackburne. The newcomers were

happy to cash in on wartime patriotism – one little 210cc two-stroke was named the Dispatch Rider, complete with a transfer depicting the real thing in action. Other short-lived marques included Kumfurt (1914-16), Aeolus (1914-16 but no connection with the pioneer Aeolus that survived from 1903-5, clearly an unlucky name), Hockley (1914-16), Gaby (1914-15) and Burford (1914-15). They all collapsed when production of civilian motorcycles ceased, by order of the War Office. But Raynal, founded in 1914, was still in business in 1953, selling 98cc Villiers-powered tiddlers.

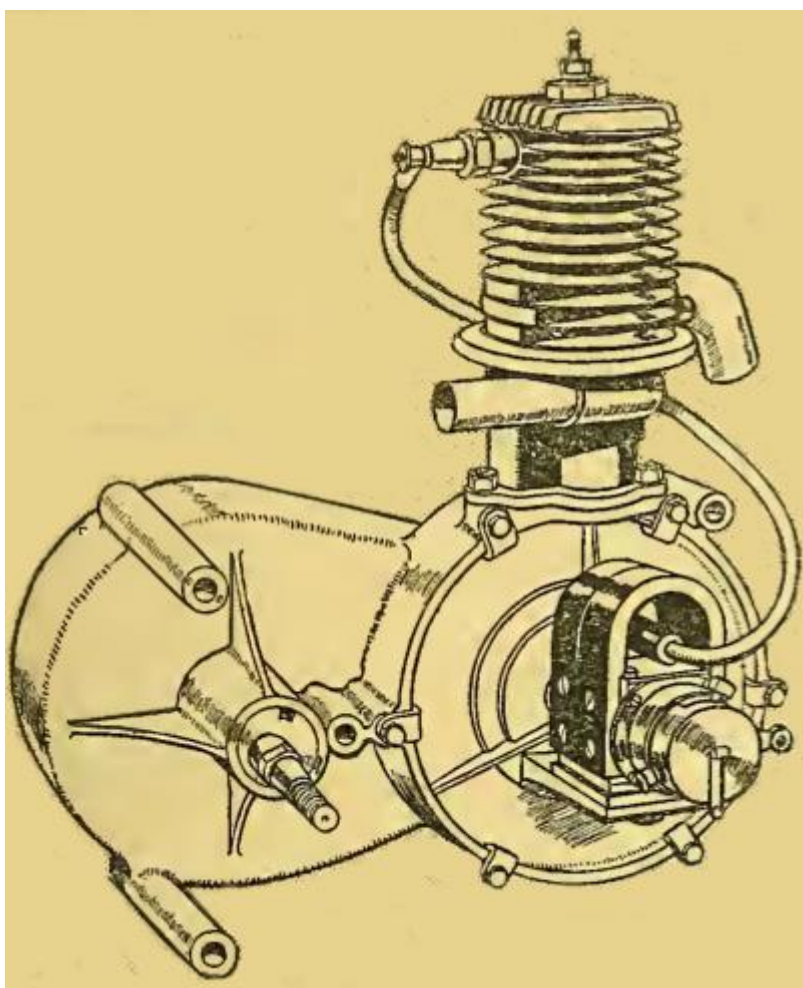
PLENTY OF ADVANCED designs had to be left on the drawing board. They included Rudge's revamped 500c Multi and a 7hp twin; Quadrant's two-stroke with a poppet-style side-valve in its exhaust port; Premier's three-speed 322cc in-line twin two-stroke with unit-construction in a duplex frame; and Allon's 584cc parallel-twin two-stroke. Levis's 422cc flat-twin two-stroke was pressed into service, but rather than motorcycles it drove ships' ventilation fans.



WH Butterfield rode the new Levis twin to victory at the Style Cop hill-climb. *The Motor Cycle* noted: "It is an interesting fact that WH Butterfield's twin horizontal Levis, which performed well in the Style Cop hill-climb, had one carburetter for each cylinder."



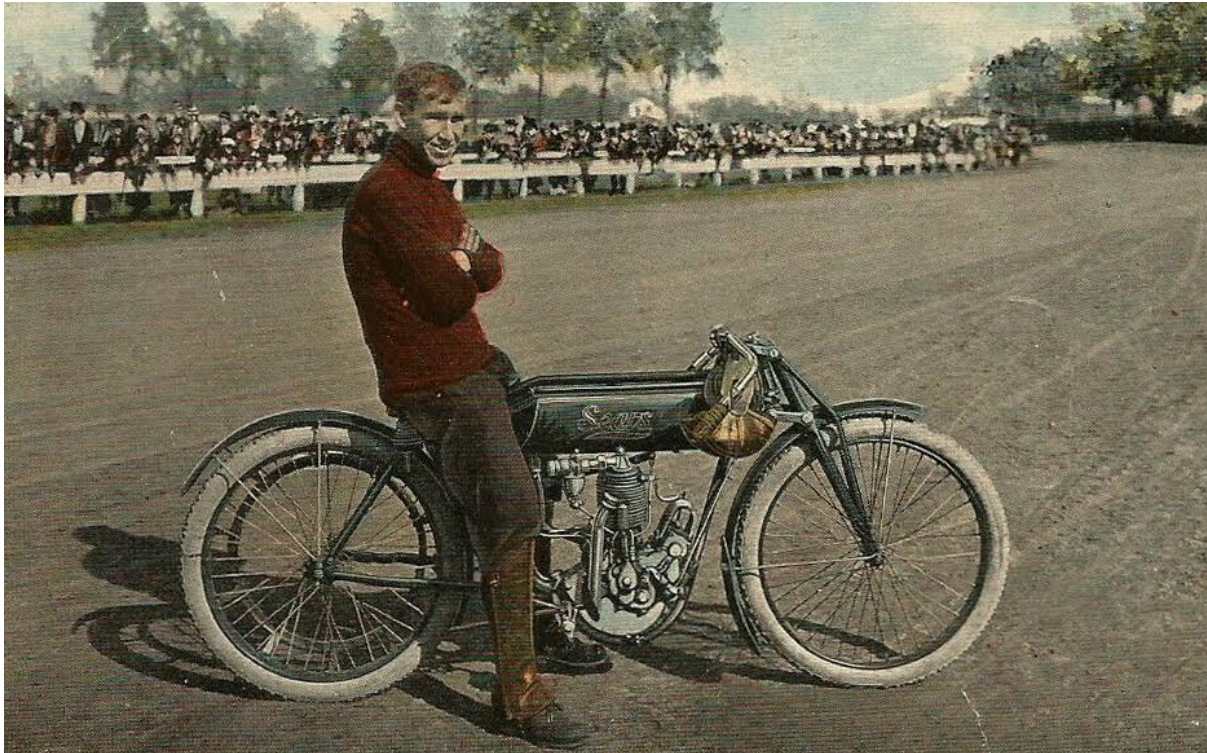
The adoption of water-cooling was said to make the flat-twin two-stroke Levis lump ideal for sidecar work; war needs dictated otherwise.



Also new from Butterfields (the firm behind the Levis) was a basic three-port 198cc unit-construction, two-speed two-stroke. The magneto was mounted on a platform at the side of the engine and driven directly by the crank.

“CALIFORNIAN MOTOR CYCLISTS have recently held a 640 miles reliability trial of a most gruelling nature, mainly through the burning, shifting sands of Southern California. Twelve competitors faced the starter at Los Angeles, and seven finished to schedule time on the following day. The temperature throughout the run was in the neighbourhood of 120°. The seven riders who made perfect scores were mounted on the following makes: Harley-Davidson (1), American Excelsior (3), Henderson (1), Indian (1), and Thor (1).”

“AN APPEAL FOR ARMY MOTOR CYCLISTS: Recruiting for the Motor Machine Gun Service is now re-opened. Motor cyclists who wish to join the Army—and every able-bodied rider should respond to the call—will find all details in the Recruiting Section.”



You could buy just about anything from the Sears & Roebuck catalogue. This Sears racer was part of the catalogue company's exhibit at the Illinois State Fair.

“PILLION RIDING: WE HAVE repeatedly drawn attention to the danger of pillion riding, and only last week we read of a fatal accident from this cause. There may be but little risk on dry roads with careful driving, so long as nothing unforeseen takes place. But in a sudden emergency, which may occur at any time, the extra weight of a passenger on the carrier may make all the difference between success in getting out of a tight corner and failure to do so. Certain of our readers will, we suppose, continue the practice in spite of all warnings. We only hope that they may not have cause to regret it.”

THE COVENTRY CHAIN CO designed an all-chain gearbox with three chains and sprockets replacing the shafts and pinions of a conventional counter-shaft gearbox. It was inspired by the 'noiseless' chain gearboxes used in London buses and taxis.

THE MOTOR CYCLE HAD RECRUITED more than 2,000 readers for the Motor Machine Gun Service, though many found themselves snapped up by the infantry. “So keen are some men to join the MMGS that the Editor has received applications from four men already on service in France to be transferred. This, however, is impossible...Among the last list of recruits the name of LA Bees may have been noticed. Bees was the competition rider and tester for the LMC Co, and now joins other well-known mechanic-riders in the MMGS, such as FH Brown (Rex), Fielder (New Hudson), Cocker (Triumph), Pountney (Rover), and Davenport (Lea-Francis). Bees brought two friends from Birmingham with him and all went home again on the single-gear twin LMC—one astride the tank, Bees driving, and the third on the carrier. Naturally, it made the countryside stare in amazement.”



WAR OFFICE,

30 June, 1915.

Sir,

I wish to express to you personally, and to those who have helped you in your recruiting work, my best thanks for the energy that has been displayed by you all in the matter of Recruiting.

I would ask you to take an early opportunity of urging all able-bodied men in your neighbourhood to come forward and enlist, so that they may be trained as soldiers to take part in the War, and help to keep our forces in the Field at the maximum strength.

I shall be glad to hear of any reasons that may be given you by young and suitable men for not availing themselves of this opportunity to see service in the Field, where they are so much wanted.

I am,

Sir,

Your obedient Servant,

Geoffrey Smith Esq.

Kitchener

“Fac-simile of letter received by the Editor of *The Motor Cycle* from the Secretary of State for War.”



"A motor machine gun battery complete and ready to take the road or field."

GOLFER CONSTABLE.



Mr. C. B. Macfarlane, the well-known amateur golfer, who is a special motor-cycling constable.

This

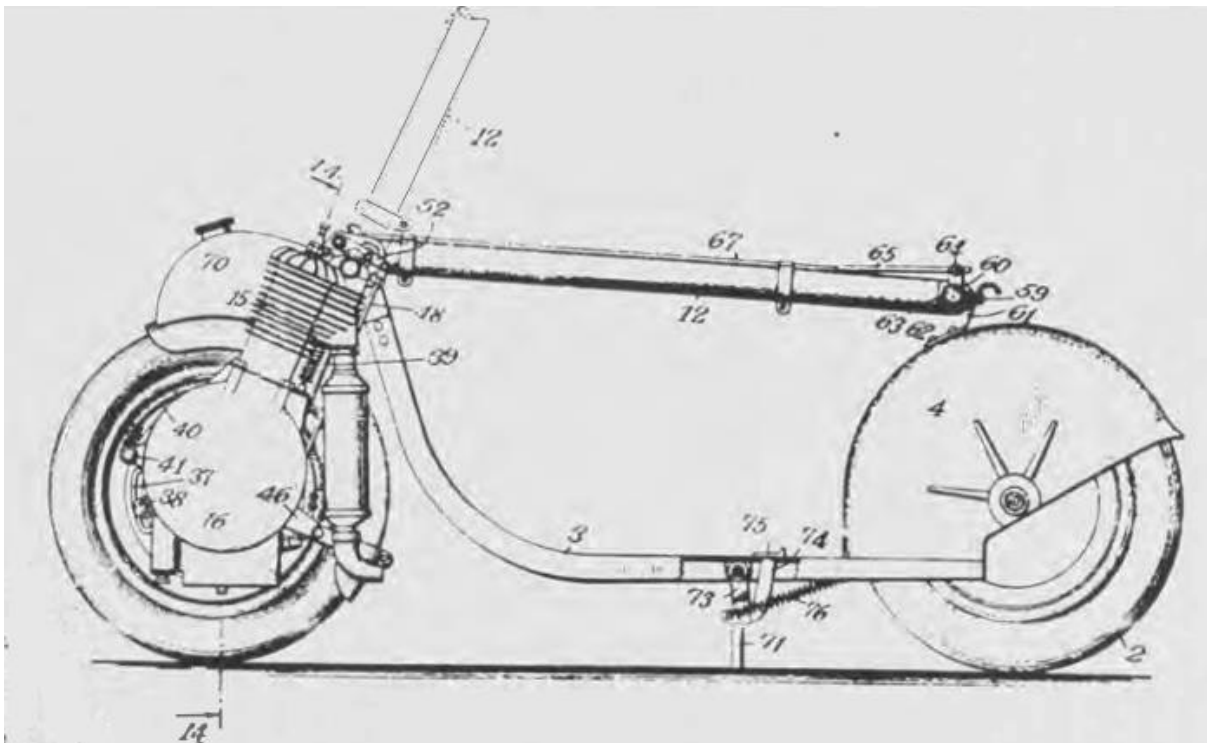
appeared in The Tatler.

FAR FROM THE BRUTALITY of the Western Front, Americans could indulge in two-wheeled frivolity. The Autoped, ancestor of the motor scooter, was designed in New York by ex-pat Londoner Arthur Gibson and Joe Merkel, the man behind the Flying Merkel (which ceased production in 1915). It weighed in at 44kg and was powered by a 2¼hp 155cc two-stroke giving a claimed top speed of 25mph with a thrifty 125mpg. As an alternative to push-starting the Autoped could be started by pushing off with one leg, as with a nipper's scooter (*The Motor Cycle* subsequently claimed credit for the term 'motor scooter'); this form of propulsion also

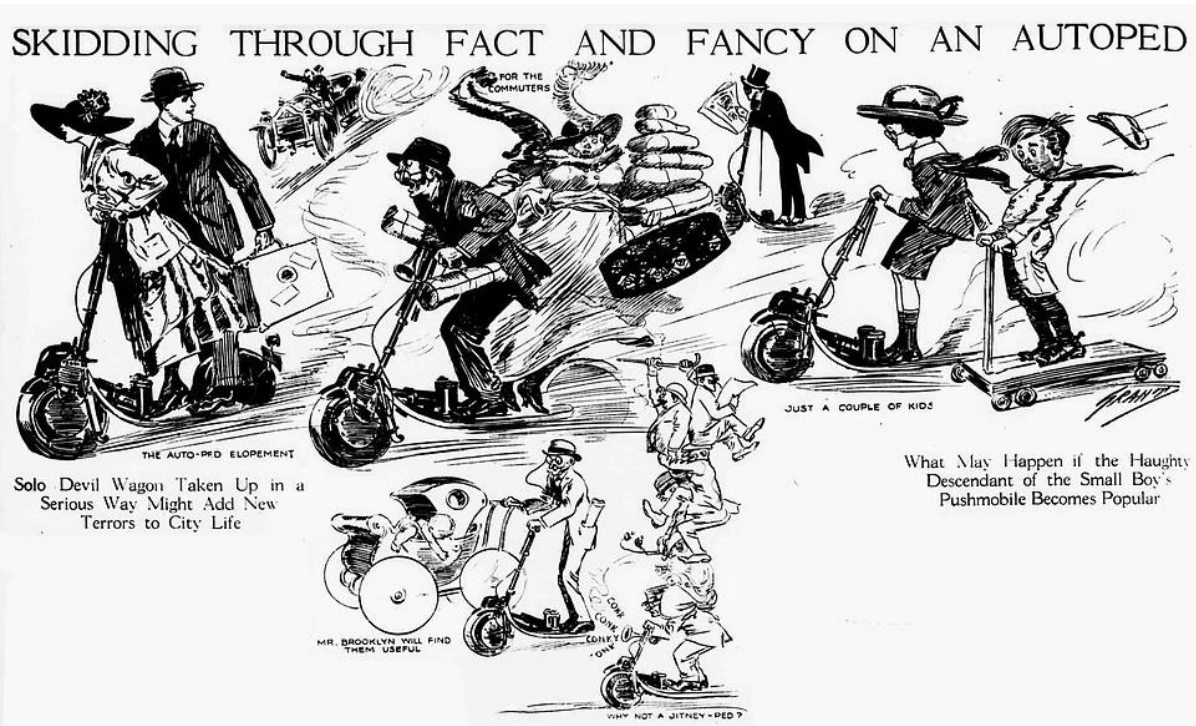
took the place of LPA on acclivities. The newcomer was seen as a bit of a toy (it was nicknamed the motorskate) but earned its keep as cheap urban transport and after the war was built under licence by Krupp in Germany and Česká Automobilová Společnost in Czechoslovakia. At the same time the Eveready Battery Co took over production, replacing the magneto with a battery/coil system and marketing the tiddler as the Eveready Autoped. Gibson clearly liked to keep busy: in 1915 he also set up the Gibson Mon-Auto Company and produced a minibike developed from the Autoped. The engine was on the rear wheel; a saddle was attached over it and a thick tube above the two wheels connected the front of the vehicle to the rear. It could be seen as the ancestor of the monkeybike.



Mr Gibson with his Autoped. (Right) some examples have survived; they bear a close resemblance to the latest crop of stand-up electric scooters.



Merkel's patent drawing for the Autoped showed just how compact it could be.

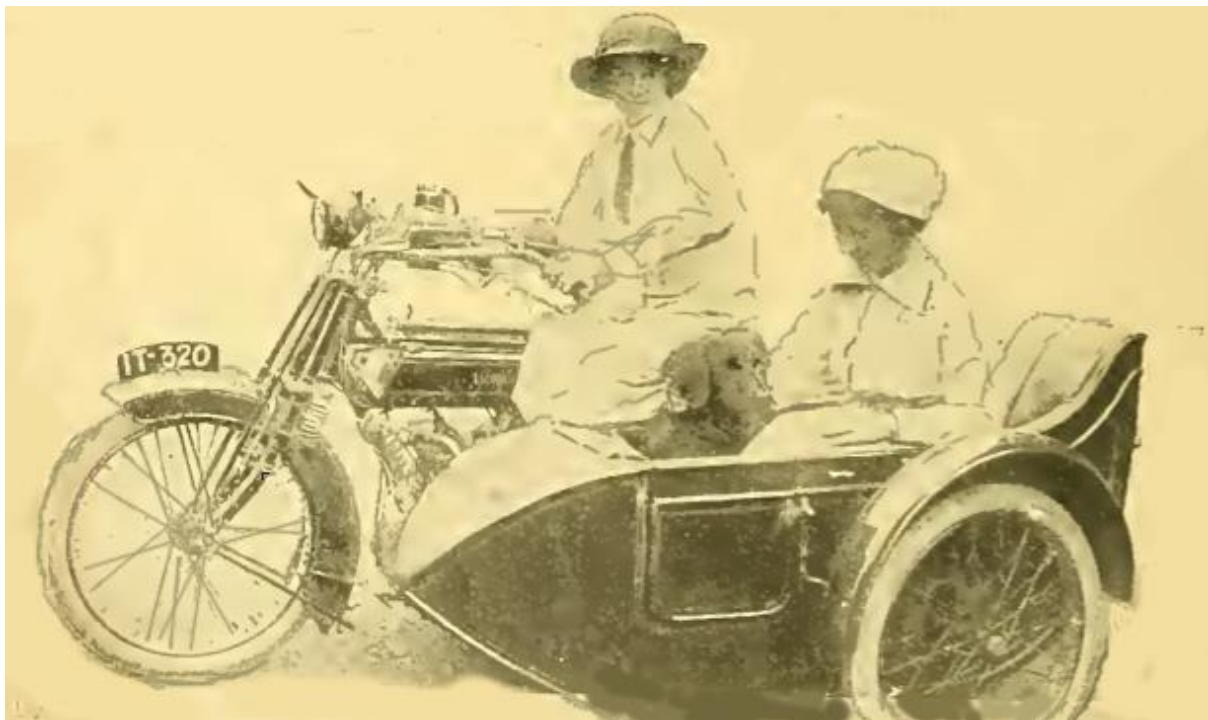


The American press wasted no time in exploring potential hazards of the new scooters. [And if you like this illustration take a look at what the Blue 'Un's artist did with the Motofrip in 1912.]

THE MOTORING MOVEMENT was happy to put its money where its patriotic mouth was. Shell moved a cool £500,00 (equivalent to £36,000,000) into the government bonds known as the War Loan and many motor cycle manufacturers followed suit. The ACU led the clubs by transferring £1,000 of its funds, encouraging affiliated clubs and riders to do likewise: "We have already mentioned several clubs whose committees have invested money in the War Loan. Mention must also be made of the Bradford MCC which has put £200 in the Loan. The Bradford Club, by the way, has a quarter of its members serving in various capacities in HM Forces, and of the remainder a large number have joined the local volunteer corps. Quite a good record!" As well as running weekly recruitment pages *The Motor Cycle* was publishing letters from clubs competing to report the highest proportion of their members at the front, as well as lists of riders who had joined up.



Despite the war the ACU was still active, though its US counterpart, the FAM, had closed down.



Motor cycling for the fair sex was no longer the sole preserve of plucky gels, they were no longer restricted to ladies' models: "A member of the Herts Women's Volunteer Corps at the wheel of a 6hp Hobart sidecar outfit. Part of the training consists in motor driving."

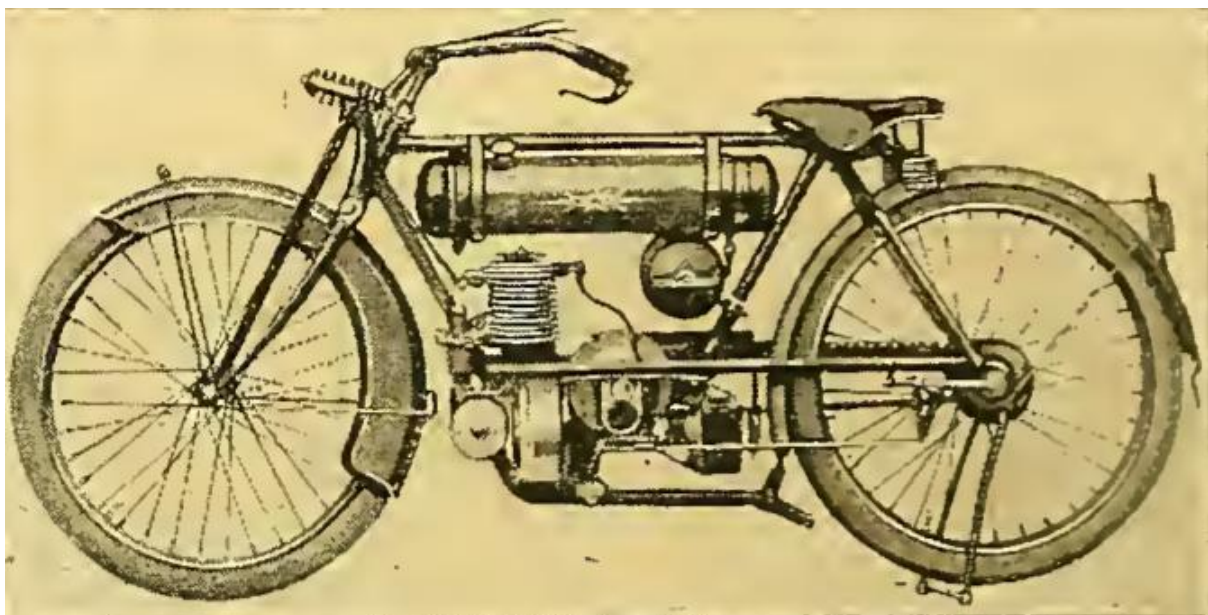
"IT MAY, OR MAY NOT, BE TRUE," Ixion remarked, "that a satisfactory locking washer has yet to be invented; but the fact remains that the trade consistently warns us against its own

shortcomings. Every instruction manual advises the purchaser to 'go carefully over all nuts with a spanner every week'...That our machines shed nuts is hardly surprising, if we realise that plated nuts are fitted to plated bolts, that no spring or locking washers, or castellated nuts and split pins are employed on a number of machines..."

ANOTHER MEMORABLE TURN OF PHRASE from Ixion, this time describing the ease with which he had decoked his Levis: "I was astounded at the exiguity of the carbon deposits. There were a few flakes barely jutting into the exhaust port, the cylinder head was practically clean, the deflector on the piston carried perceptible deposits on its steeper slope, but its gentler slope was merely stained. Cleaning these two-stroke engines is child's play; they can be carried in one hand, and are readily made to look like new by brushing in a small basin of paraffin..."

AND THERE'S MORE: "The other day I met a *rara avis* in the shape of a motor cyclist who uses a motor attachment clipped inside the diamond frame of a pedal cycle. I had fancied that this species was practically extinct. His particular mount took the form of a JES attachment, and he thinks nothing of doing 120 miles in a day, of averaging 20mph in the level Midlands, and of covering upwards of 150 miles on a gallon of petrol."

"NO DOUBT INFLUENCED by the progress in England, America is now turning her attention to the lightweight motor cycle. The bad roads in the States have delayed the production of the smallest and lightest power propelled two-wheeler." The 222cc two-stroke Cleveland featured a two-speed transmission with a multi-plate clutch and shaft drive. Claimed top speed was 35mph with a consumption of 120mpg. As the Blue 'Un noted: "...in certain parts [it] bears a strong resemblance to a famous English machine."



Compare the 222cc Cleveland with a picture of the 249cc Baby Triumph and you'll see the forks and frame are not dissimilar.

"SINCE MOBILISATION THE ITALIAN GOVERNMENT has bought up practically all the motor cycles over 3 h.p. . considered suitable for war service. The four most prevalent types are British-made machines, viz.. Triumph, Rudge, Sunbeam, and Lea-Francis. Among the sidecars which are used for the transport of officers, the Motosacoche and 7hp FN are pre-eminent. The purchases included private owners' machines, and the price in each case was fixed by a Commission of motor cycle experts and officers...With the big demands for motor cycles made

by the Italian Government, it will occasion no surprise to learn that there is a scarcity of motor cycles at present, and it is unfortunate that British manufacturers are not in a position to take advantage of it."



"6,000 miles to enlist: Corporal Fauraine, despatch rider RE, who travelled all the way from California to enlist. His mount is a 1915 countershaft model 4hp Triumph."

UNDER THE HEADING "Sauce for the Gander" the Blue 'Un gleefully reported: "A superintendent of police appeared last week at the Stroud Police Court charged with having driven a motor cycle in a dangerous manner...The prosecution alleged that the motor cycle had been driven 'very fast', while the defence estimated the speed at from 2-4mph. From what we know of police estimates of pace, we should therefore be inclined to divide by the usual factor and to place the speed at $\frac{1}{2}$ mph. The defendant said that he rode out of George Street at a speed slower than a man could walk! A fine of 10s was imposed."

THERE WERE 35 STARTERS in the Dublin & DMCC's Irish Open 24-Hours Trial; 29 of them finished within the time limit. As usual the trial followed a 400-mile route from Dublin to Donegal and back including Glenesh Pass, the steepest main-road hill in Ireland. It had never been climbed by a $3\frac{1}{2}$ hp outfit; 25 riders made it to the top but only eight of them made non-stop climbs. Toolbags were sealed at the start; repairs and adjustments en route were penalised. WH Freeman (9hp Indian) and T Toole (4hp BSA) were both within 59sec of the scheduled time and shared the Rudge-Whitworth Cup, ahead of J Doleman ($3\frac{1}{2}$ hp Rover) at 79sec and R Walshe (4hp BSA) at 107sec.



“The double hairpin corners on Glengesh Hill—the *piece de resistance* of the Irish 24 hours trial. Just as this photograph was taken an Indian rider had tackled both corners successfully.”

“THERE ARE INDICATIONS that the magneto may be forced from its pre-eminent position as a spark producer in favour of the dynamo, which, combined with an efficient accumulator, is becoming increasingly popular owing to the powerful and steady light produced by these means...accumulators have been immensely improved in recent years until they are capable of withstanding a heavy discharge...It really should not be necessary to carry two electrical machines on the same mount.”

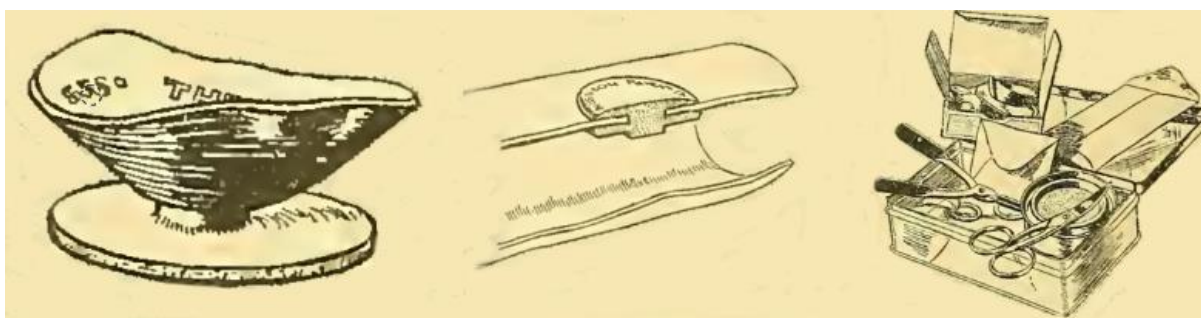
“WITH THREE-QUARTERS OF EUROPE engaged in the bloodiest struggle in history, and motor contests consequently things of the past, it is quite a relief to hear of a road race for motor cycles held recently in Spain. Until within a couple of months ago our Italian friends ran some occasional trials, but now that they have joined the Allies, competitions with them are out of the question...This Spanish race was organised by the Motor Club of Madrid, and, compared with previous events, it appears to have been indeed a severe test. The total distance was 206 kilometres, or 130 miles, and there were many hairpin corners, besides the crossing of two mountain ranges...The winner, M Lliviria, rode a Scott, and covered the total distance in 2hr 52min 1sec (=45.25mph). The first dozen finishers arrived in the following order : Lliviria (Scott), Landa (Indian), Landa (Rudge), Cardenal (Indian), Adariaga (Scott), Santoyo (Scott), Rippolez (Scott), Manzarraga (Indian), Pidal (Indian), Rudernos (Indian), Rivera (Indian), Azqueta (Indian).”



The Scott team; race winner M Lliviria is on the right.

THE ANNUAL RUSSIAN SPEED TRIALS, held at Petrograd, were dominated by British bikes. Fast time of the day over the flying verst (0.66 mile) was 37sec (64.9mph) set by an 8hp Matchless-JAP twin. The top five bikes in the 500cc class were two Rudgets, followed by three Triumphs. And first three in the sidecar class were an Enfield, and Premier and a Sunbeam.

THE TOUGHEST 'ROAD' RACE in the US was the 421-mile cross-country trek from San Diego to Phoenix. It started in 1913; riders were ready and willing to face rockslides, loose sand, sunstroke and renegade Apaches. But the 1915 race was called off because of raids along the route by Pancho Villa's guerillas.



Muskiton of Cardiff produced an advanced puncture repair kit that presaged 21st century tubeless tyre repair kits. After a puncture was enlarged by a cutter a repair stud was treated with a self-vulcanising solution and inserted from the outside. It was claimed that the patch would even work without the solution.

INDIAN RIDER JIM DAVIS set a 100-mile dirt track record of 88min 6.4sec (68.1mph), ahead of a brace of Harleys.



Harley-Davidson Wins International Grand Prize Race

**Breaking Another World's Record
Travels 68½ Miles an Hour for 300 Miles**



Otto Walker rode a Harley-Davidson to victory in the 200 and 300-mile races run on a two-mile dirt track at Dodge City, Kansas. He completed the 200-miler in 2hr 37min 58sec to average 78.4mph and completed the 300-miler in 3hr 5min 45sec to average 76.27mph. It was his 25th birthday. In the 300-mile race Harleys finished 1st, 2nd, 4th, 5th, 6th and 7th.

HEADLIGHTS WHICH COULD BE swivelled on their mountings were prohibited under the Defence of the Realm Act in case spies used them to send signals. Riders who didn't get the message had their headlamps seized and were fined. However, only a few weeks after the first dire warning, the Blue 'Un went into reassurance mode: "There has been a lot of unnecessary fuss made concerning swivelling lamps on motor cycles. As we recorded last week, one magistrate advised the police to withdraw a summons. In any case, all that is needed is simply to solder the swivelling device, or to fit a pin right through."

"A MOTOR CYCLIST WAS RECENTLY STOPPED on the London-Birmingham road, near Woburn, by four policemen, who proceeded to remove his head light, which he was not using at the time, at the same time threatening him with a summons. The head light was of a type recently declared to be perfectly legal by a magistrate. It seems to us that the police acted in a very high-handed manner, and exceeded their duty."



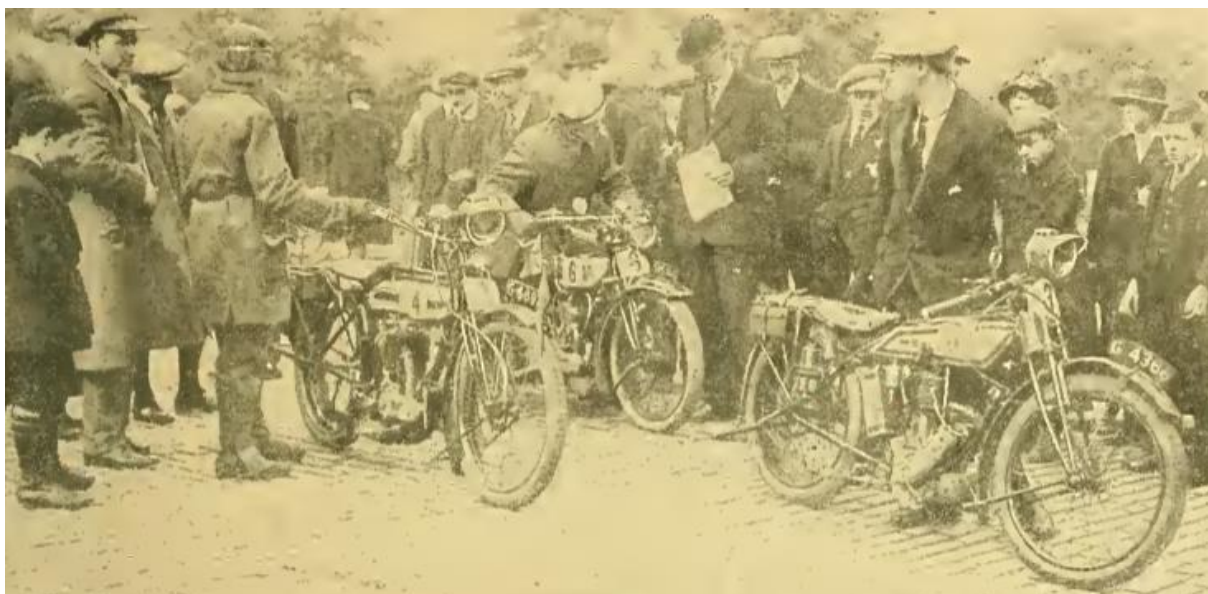
The ACU Ulster Centre's End-to-end of Ireland reliability trial traditionally attracted leading competition riders from throughout the UK, but this year the two-day 512-mile event was exclusively Irish. R Jones (4¼hp BSA won the Palmer Trophy, ahead of WH Freeman (9hp Indian) and J Doleman (3½hp Rover); Douglas won the team prize (J Stewardt, RS Russell and 'Sou'-wester'). CB Franklin (9hp Indian) won the sidecar prize. Pictured (left) are 'Sou'-wester' (despite the cap) fettling his Duggie and Mr and Mrs AW Mooney (6hp Bradbury) taking an al fresco second breakfast at the Drogheda control.

“WE HAVE RECEIVED FROM AUCKLAND, NZ, a letter from Mr JW Sparke, who is making a tour overseas on behalf of his firm, the Lloyd Motor Engineering Co, of Birmingham. The joint enterprise of Mr Sparke and his company is meeting its just reward, for a large number of orders have been handed to him. Mr Sparke had already been in India when he wrote us, and will return to Australia. His next trip was to have been to Japan, but matters looked very serious between Japan and China, and the Yokohama agents for the LMC cabled M. Sparke to postpone his trip. We have always been strong advocates of the practice of personally seeking business in the British Empire overseas. American competition is very keen in our self-governing dominions and colonies, and to take adequate steps to meet it it is necessary for British manufacturers to send out representatives to study local conditions and look after agents.”

THE OSAKA MOTORCYCLE ASSOCIATION marked the birth of the bike club scene in Japan.

THE OFFICIAL TOURING GUIDE of the Auto Cycle Union...gives some particulars as to how the Union has been of international service up to March last, and since that date the work in connection with recruiting, supplies, and assistance to the various Government departments has continued...A number of favourite tours have been drawn up, and particulars can be instantly sent to members on application. A circular and comprehensive tour in England, Wales, and Scotland has been compiled, covering a total distance of 3,212 miles...Further useful information is a list of notable test hills, giving their approximate gradient and length. The list of ferries has been revised and brought up to date, and is of great use to the tourist, including, as it does, not only those in England and Wales, but in Scotland also. The list of officially appointed hotels and repairers has been completely modernised and rearranged in a clear and lucid manner.”

FAR FROM THE FIGHTING, a speed trial was held in Argentina. Fastest lightweight over the 1km Buenos Ayres straight was an NUT at 50mpg, followed by a Singer (48mph). A Matchless won the 3½hp class at 62mph, ahead of a Bat (55.5mph). And a Matchless also won the sidecar class (60mph) ahead of a Pope (53mph). And Indian won the unlimited class at 75.5mph, ahead of yet another Matchless (53mph).



Of the 21 starters in the Glasgow MCC's 12-hour, 186-mile trial, nine earned gold medals by making clean ascents of four test hills and finishing within one minute of the specified time.

“DO NOT BELIEVE THE TALES told in garage yards and roadside inns any more than you are forced to by etiquette. Many people are very fond of adding a few artistic flourishes to their performances. The man who bluffs into the yard and announces that he has just done twenty-five miles in thirty-four and a half minutes should be encouraged, and after a little time will inform you that perhaps his best show was when he climbed Sludgeside’ (average gradient 1 in 3½—1 in 1½ for ten yards) on a wet night on one cylinder with the petrol turned off. No; a man who does anything over thirty-five miles in the hour for any distance is ‘some’ rider, and, except by fools who take terrible risks, over forty in the hour is well nigh impossible. If a hundred miles of give and take roads are covered in three hours, the rider can feel quite pleased with himself. With regard to personal comfort, wear plenty of clothes and a good water and dustproof outside covering. Breeches and leggings are distinctly comfortable, and look smarter than a pair of bagging overalls.”



“A meet of the Burnley Motor Gipsy Club. The membership totals about seventy, the great majority of the members being possessors of sidecar outfits.”

“AMONG THOSE PRESENTED to His Majesty during his flying visit last Thursday to some of the Coventry factories engaged on Government work were Mr AH Niblett (Humber), Mr CW Hathaway (Triumph), and Mr Alfred Bednell (secretary Motor Cycle Traders’ Union), as members of the Armaments Output Committee. In the course of his rapid tour through the Rover works His Majesty the King saw motor cycles in course of construction, though at the present moment the greater part of the Rover Co’s energies are concentrated upon work of a more important and pressing nature. During his tour of the Birmingham factories His Majesty visited the BSA works, and among those presented to him was Mr CA Hyde, general manager of the cycle and motor cycle departments.”



Billed as “the first occasion that a display of a military nature by motor cyclists has been given”, the Midland Motor Cyclists’ Volunteer Corps staged a show in aid of Birmingham charities. Highlights included mock attacks and the retrieval of ‘casualties’. The MMVC was formed in March 1914 “with the idea of banding together a body of motor cyclists to be trained for home

service, and to assist in promoting recruiting for HM Forces, the training to consist of despatch riding, scouting, signalling, vedette and outpost duty, reconnaissance, and patrols.”

“SIR, I THINK IT IS ABOUT TIME someone entered a mild protest against the childish futility of the Motor Cycle Volunteer movement. At a recent hill-climb we had a beautiful picture of exquisitely garbed, athletic, young men playing themselves on their motor cycles the whole afternoon. A glance at a contemporary of yours shows some of this redoubtable force advancing to the attack. The picture bears far more resemblance to a party of exuberant Bank-holidayers on Hampstead Heath. Doubtless it was all very exciting, recalling as it would do memories of their not far distant days of hide and seek. They will learn considerably more of matters military by responding to Lord Kitchener’s last appeal, and, in addition, will have opportunities for enjoying the finest of sports. One small group of irresponsibles took a great delight in exploding some toy pistol every time a certain competitor passed. Such conduct might have been the cause of an accident, by misleading the driver into thinking something had gone wrong with his machine. Their conduct struck me as being just on a level with the whole organisation—to wit, childish.

MB”

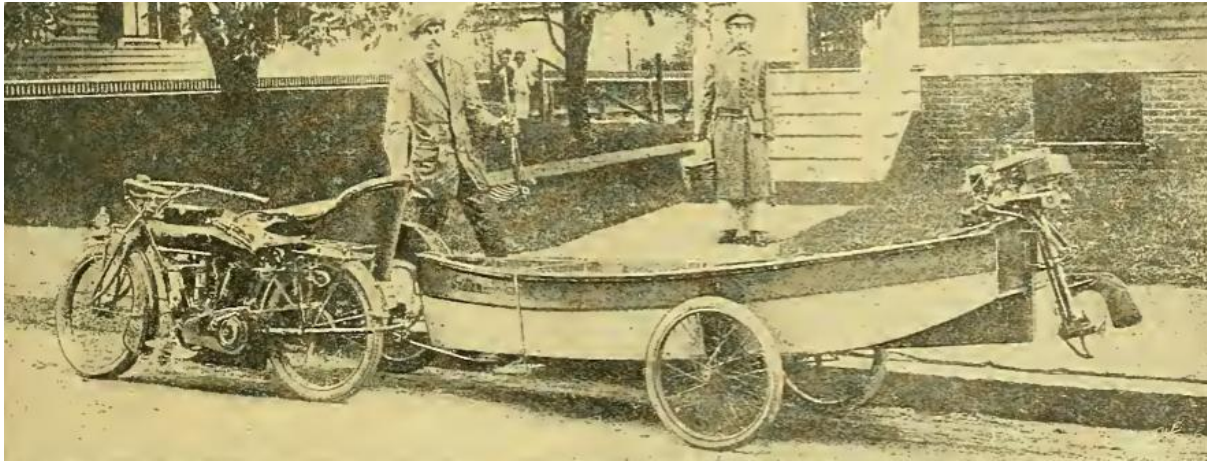
[As so many criticisms of others have appeared in the press from writers who themselves are not in the Service, we think it only fair to state that ‘MB’ writes from Aldershot, and holds a commission in the Army—Ed.]

“I HAVE SEEN LITTLE of this movement myself—I only returned home from duty two weeks ago from the Front...will you allow me to take my stand in your columns beside your correspondent ‘MB’ and say to the hale healthy men who are playing at this childish travesty of war, ‘For God’s sake give up this fooling now, and take a hand in the sterner game. If you can’t or won’t do that, at least give up your fooling just the same, for to those who have seen even a little of the great grim tragedy that is being enacted little over 50 miles from these shores, your doings seem like a child’s burlesque of death.

AGM, Captain ASC.”



“A remarkable motor cycling outfit on which an American rider and his family recently set out to cross the continent to the San Francisco Exposition. The four-wheeled trailer, which provides accommodation for the family, is hauled by a 6hp single-cylinder motor bicycle.



An American motor cyclist and his wife, who are both as devoted to fishing as they are to motoring. They combine the two by motoring to the scene of the fishing operations, and the boat, which is propelled by a detachable motor power unit, is slung on a special chassis and towed behind the Indian sidecar outfit. The boat is twelve feet long, and is sufficiently roomy to provide accommodation for the whole family; when on the road a couple of youngsters occupy it.

“WARE POLICE WITH REVOLVERS: The absolute necessity of immediately stopping when called upon by either soldier or police constable was emphasised a few days ago when a Richmond (Yorks) medical man was fined £2 for not stopping. Defendant, who stated that he was hurrying to an urgent case, was motor cycling past Scotch Corner on the Great North Road at midnight when the police constable raised his red lamp and called upon him to stop. He did not do so and the constable fired his revolver at the motor cycle and missed.”

“HIGH SPEEDS IN THE USA: At the Dodge City Speedway, Kansas, USA some of the most prominent American crack riders contested a 300 mile race for the International Grand Prize Cup. Otto Walker, on a Harley Davidson, came in first at an average speed of 76mph.” There were 27 starters; Harleys finished 1st, 2nd, 4th, 5th, 6th and 7th with an Excelsior 3rd.



Harley factory rider Bill Brier and the 1,000cc F-head factory racer he had just ridden in a race in Sioux City, Iowa. The following year Brier was killed in an accident during a dirt-track race in Belmont, PA.

IN THE NEDERLANDS the Noord Nederlandsche MC, the Nederlandsche Motorwielryders and the Friesche MC got together for the Three Provinces Trip, based on Groningen. Top three in the lightweights were a James and two Douglasses; a Wanderer twin and an FN four tied for the heavyweight lead, ahead of a four-pot Simplex, a Pope Twin, a Rudge Single and another FN four.



Start of the Dutch Three Provinces Trip at Groningen.

“SIR, PERHAPS, IN COMPANY with many of your readers, you may have observed that, at dusk and thereabout, motors and motor cycles appear to gain in speed and power, although the

setting of the throttle and spark remains the same as previously. An explanation of this might be forthcoming due to the fact that plants, flowers, etc, give out at dusk a considerable quantity of carbonic acid gas, this being sufficient to augment the speed and power of the motor referred to.

GPGK”

“SIR, I SHOULD LIKE TO SUGGEST to ‘GPGK’ that the real reason for this well-known phenomenon is the rotation of the earth on its axis. Owing to this a road, which at noon lies quite level, will at dusk slope downwards at an angle of about 45°. This enables the machine to travel at a tremendous speed. At daybreak, on the contrary, the slope will be upwards, and it is this that makes it so hard to get up in the morning. Of course I may be wrong. It may be CO₂, after all. If so, let us plug up our exhaust pipes to prevent the escape of any burnt gas, thus keeping the cylinder constantly full of undiluted carbonic acid gas. It will be found that the engine will then pull as well uphill as on the level. By the way, talking about woodchucks, can anyone say: While the ‘Two-stroke’ versus ‘Four-stroke’ controversy’s to the fore, When a ‘two-stroke’ engine ‘four strokes’ too, what does it ‘four-stroke’ for?

Y2895”



“Sidecar runs for wounded soldiers: A snapshot of some of the 25 sidecar outfits (and their gallant occupants) used in a trip made by a party of Manchester motor cyclists from the Stretford Hospital to Herridge, Macclesfield.”

“WE HAVE RECEIVED the following letter from the Front: Just a line or two from three of the boys to let you know that we are still going strong, and being now in our eighth month out here, during which time we have managed to stick together, with the exception of such times when we were sent out to the divisions or corps for a day or two. Although it is ride, ride, ride, from morn till night, we are still anticipating taking part in the next TT with as much enthusiasm as ever, provided we do not ‘konk’ out before, which we sincerely hope we shall not do.

Howard R Davies (Sunbeam), **Godfrey Boyton** (Triumph), and **DM Brown** (Rover).”



“Former well-known competition riders—competitors in the last TT Race—who are now despatch riders at the Front. From left to right: DM Brown (Rover), HR Davies (Sunbeam), and G Boyton (Triumph).”

“A MONSTER RACER: Sir, I enclose herewith photograph of myself and a French Peugeot racing machine. Perhaps the machine may be of interest to the readers of The Motor Cycle. The motor is a four-cylinder V type; Longuemare carburetter and Le Febre oiling device are also fitted Ignition is by six dry cells, contained in the triangular box mounted at the head of frame, and two sparking coils, one on each side top frame tube. No brake nor pedalling gear is fitted, and the motor when ‘opened’ up has a wonderful turn of speed. No one here has the pluck to leave the motor opened for any length of time. I hope next spring to bring my touring model, a 7hp Indian, to England to tour. If I cannot get passports I will try to join some department of the Government that will enable me to come over. As I own machine and sidecar I believe I should have no trouble in enlisting in the hospital or some other service. There are lots of German residents here, but they are little liked, and I threw away a tyre pump stamped ‘Blumel made in Germany’ and bought another made in USA. The only thing left on my machine that is German is the Bosch magneto, and that in name only; the magneto was manufactured in Springfield, Mass.

Samuel Eagan, Junr
Vicksburg, Miss, USA”

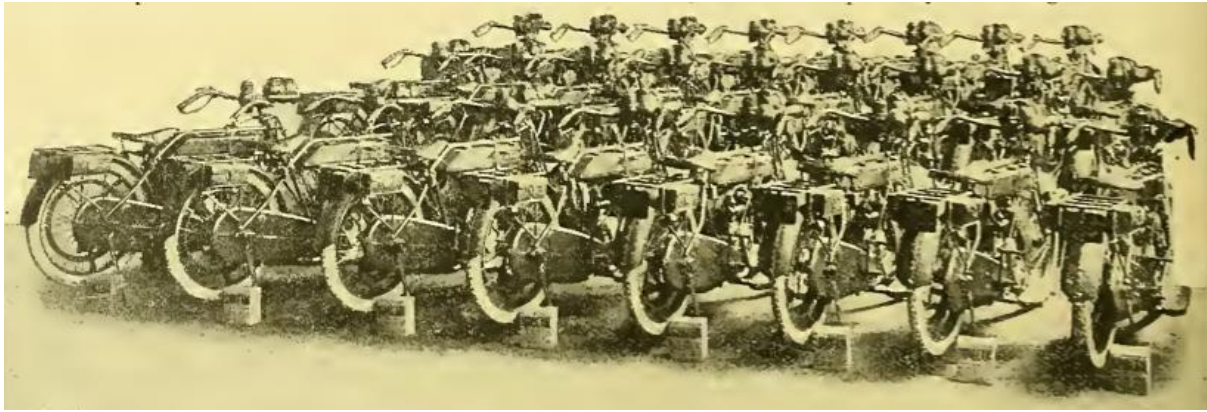


American

enthusiast Samuel Ragan with a Peugeot V4: "Its speed capacity is such as to frighten most of his friends who have ridden it."

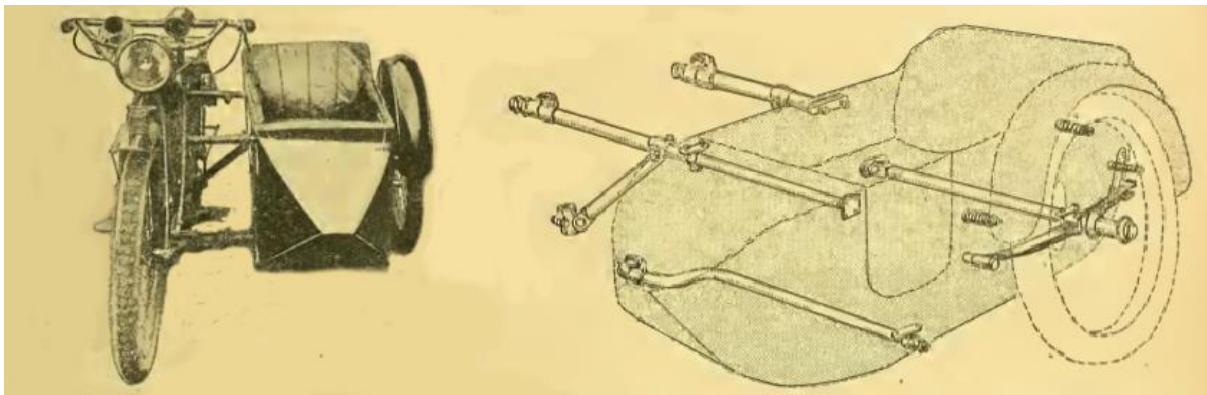
"NOTHING APPARENTLY HAS COME of the suggestion which was ventilated in these columns some time ago to release a certain proportion of the motor cycles produced in this country for the use of the Army and replace them with machines of American manufacture. Such a scheme, it will be obvious, would enable our firms to keep up their business connections and so more easily pick up the threads of trade when they are in the happy position of being able to cope with all demands."

"WARE WALSALL: MOTOR CYCLISTS who have to pass through Walsall (for their sins) are advised to exercise extreme caution. Summonses have been issued for driving at a speed dangerous to the public, and an unfortunate rider was recently fined 40s for an alleged speed of 21mph (his own estimate was 10-11mph) The police apparently used separate watches, which they compared at intervals, so it is plain that the possibilities of error in the timing are considerable."



“Twenty-five 3½hp Sunbeams, a small portion of a large order for the Russian Government. The photograph was taken when the machines were lined up for the Russian inspector. The small boxes by the side of each machine contain spare parts.”

“IT APPEARS THAT THE ONLY Overseas Dominion which possesses a ruling body is South Africa, and in this country the pastime is looked after by the Motor Cycle Union of South Africa. Australia has no such organisation, and as motor cycling is going ahead by leaps and bounds in the Commonwealth, it would appear that both from the point of view of sport and touring, and to help the movement generally, a parental body of some sort is very desirable. The various States have their clubs, also the principal towns in each State, but the huge size of the country has something to do with the non-formation of a controlling body for the whole of the continent. The English Auto Cycle Union would be glad to advise interested Overseas readers who feel that such an institution is needed in the country in which they reside.”



The Bramble sidecar range was extended with this sprung, monocoque model designed specifically to fit bikes with rear suspension. Existing Bramble models featured an ‘enclosed’ chassis; now a strengthened body took the place of the chassis. It was shown, with four fittings, on a spring-frame Indian.

“MOTOR CYCLISTS IN SOUTH AFRICA, or, to be more correct, those SA motor cyclists not fighting in the great war, continue to hold occasional trials which, although naturally not so well supported as in the pre-war days, help to keep those who remain at home enthusiastic, and so prevent club affairs from becoming moribund. These remarks apply also to motor cycling in New Zealand and Australia, and, with home competitions practically suspended, the doings of our Colonial friends are of more than usual interest. The Eastern Province MCC whose headquarters are at Port Elizabeth, held a 20 miles road race which resulted in some good sport. As a result of recent heavy rain, the road was in a shocking state, and there were one or two falls. Some of the competitors were in a state of exhaustion at the end of the 20 miles over such

bad roads.” First three home in the solo class were a 2¾hp Douglas, a 3½hp Rudge and a 5hp Indian. The top three outfits were a 5hp New Hudson, a 3½hp Alldays and a 4hp Triumph. “The Cape Club recently held a flexibility hill-climb for novices. A slow and fast climb, each about half a mile in length, was the order of the day, with one class for solo riders and one for sidecarists. The same gear was to be used in both attempts, while braking or clutch slipping or touching the ground entailed disqualifications. Solo class winner J Wylie (AJS), variation in time 1min 59.6sec; sidecar class winner, E Binns (Premier), variation 1min 51.6sec.



J Wylie (AJS), winner of the Cape Peninsula MCC flexibility test.

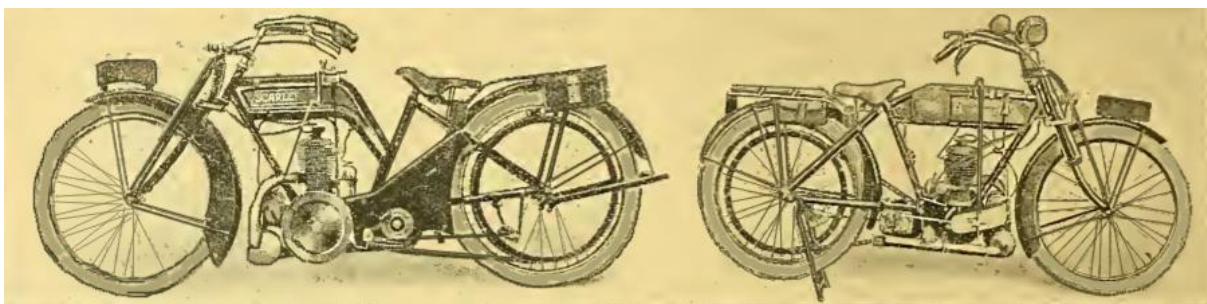
FOR SOME MONTHS PAST a section of the daily press has been urging the government to adopt compulsory service forthwith, and without necessarily expressing a diverse or favourable view of this national movement, we should like to make it known far and wide that, so far as motor cyclists are concerned, to urge compulsion at present is rather beside the point. There is no dearth of applicants so far as this patriotic section is concerned. For months past our efforts have been taxed to the utmost in coping with the applications we have received from prospective recruits, and we go so far as to say that were motor cyclists treated in a businesslike manner, and in a manner they expect to be treated, the numbers would be increased threefold. We refer mainly to anomalies in the matter of payment. We have dealt with the subject before, and, as our readers know, it is not a question of the low rates of pay—for that matter the British Army is, as a rule, very well paid—but the inconsistencies of paying different rates to motor cyclists performing exactly the same kind of work. The rates for motor cyclists vary from 1s 2½d to 6s per day, depending upon the section, which every reasonable man will agree is absurd; all car drivers get 6s per day, and frequently a man whose experience is just insufficient to pass him as a car driver has to accept pay but one-fifth of the amount. Before there is compulsion we contend that the first move is to equalise the rates of pay.



“Despatch riders attached to the Royal Engineers after landing on the sandy shores of the Gallipoli Peninsula. It will be noticed that ‘shorts’ and shirt sleeves are the standard equipment in those sunny parts!”

MOTOR CYCLES ARE POPULAR with the chiefs of Uganda, and at Kampala there are about twenty natives who ride them. The majority of the machines are Triumphs, both four and two-stroke models being in evidence.

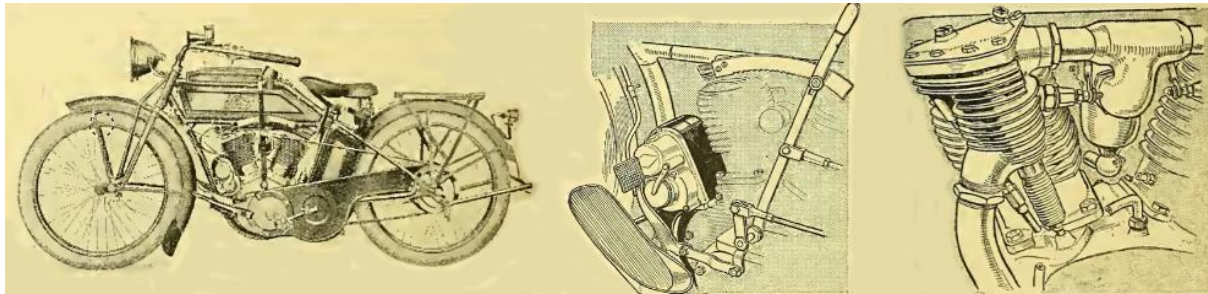
“A NEAT NEWCOMER TO THE RANKS of lightweights is the Scarlet, manufactured by Messrs Scarlett & Hodkin of Manchester. The Scarlet is made in three models—single-speed, two-speed, and ladies’ model. The engine is the same in all three, viz, a two-stroke Metro, 70x70mm, giving a cubic capacity of 269cc. It is fitted with an outside flywheel, EIC waterproof magneto, and a Senspray carburetter. In the case of the two-speed model a countershaft gear box is fitted, with combined chain and belt drive. The lady’s model is identical with the exception of the top tube, which in the former case is dropped sufficiently to give freedom for the rider’s skirt. The machines are enamelled in scarlet, while the tank is of a rather darker shade of red with black lining.”



The Scarlet was available in gents and ladies versions.

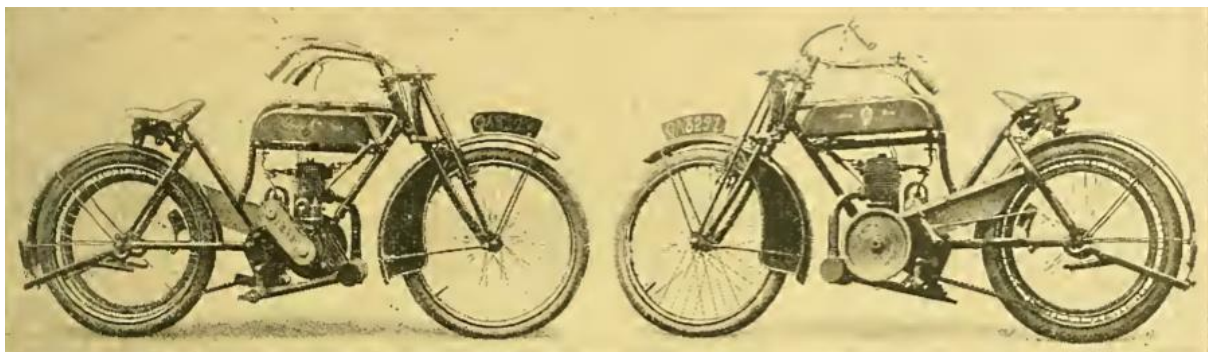
“THE LATEST AMERICAN MACHINE to be placed on the British Market: The 1916 8hp 976cc twin-cylinder Thor, which hails from Chicago, follows generally American practice. It has a pleasing appearance, being enamelled in two shades, of blue, with paneling around tank and toolbox. The machine is fitted with a Schebler carburetter. A typically American feature is the combined Splitdorf magneto and dynamo, mounted on an extension of the crank case between the down front tube and cylinders. The accumulators are carried below the saddle-pillar. Twist handle-bar control is adopted, the left-hand operating the spark and the right-hand the throttle. The exhaust lifter is controlled by a lever on the right-hand side, operating by means of Bowden

wire. Chain drive is employed, and the transmission is direct from the motor sprocket...The springing consists of spring forks on the rigid truss principle, the springs being housed in the fork tubes and a spring saddle pillar. The toolbox is on the top tube over the tank, where also the speedometer (driven from the back wheel) is fixed. The main tank will hold two and a half gallons of petrol, and an oil tank holding three quarts is situated below the saddle...The Thor motor cycle is the latest American arrival, and all the time the motor cycle press across the Atlantic is urging Yankee manufacturers to seize the opportunity for business while the British manufacturers are unable to supply. They quote the following figures in support : British imports from United States during the first six months of 1915 equalled \$620,000,000, compared with \$350,000,000 in the corresponding period of 1914, and \$345,000,000 in 1913."

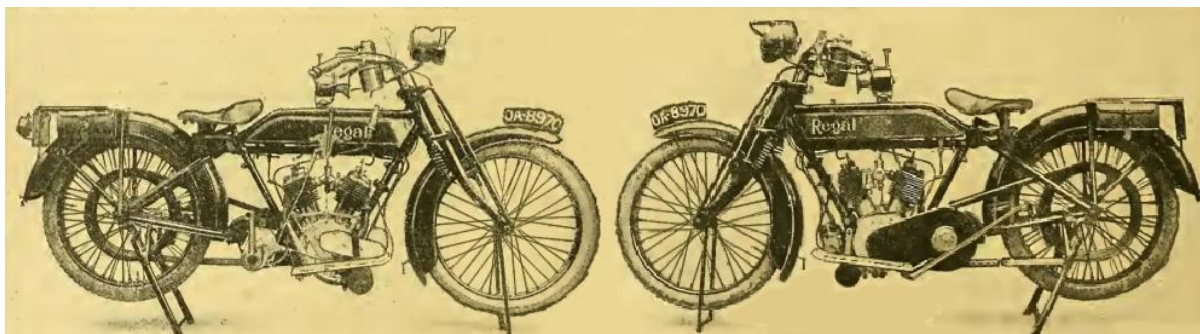


From left: the 8hp Thor twin. "Position of combined magneto and dynamo, foot and hand-operated speed lever, and footrest. Thor engine, showing enclosed overhead valves, position of sparking plugs and 'T' shaped induction pipe."

The 'Despatch Rider', made by Dreng & Co of Erdington, was powered by a 2¼hp 211 cc two stroke with a single-speed transmission "the idea being to keep the machine as simple and light as possible". The ladies' version, pictures, had the same spec as the gent's model, with Druid, Saxon or Brampton forks; it was finished in khaki enamel. The Blue 'Un reported: "During a short trial run on the Despatch Rider we were struck by its handiness, ease of starting, and absence of vibration. The little engine also had a good turn of speed. It is a suitable mount for those requiring a light and simple machine."



We can only guess the reaction of military despatch riders to the ladies model 'Despatch Rider' with its khaki livery.



“A striking Regal which is fitted with a twin- cylinder JAP engine and a four-speed Jardine gear. Drive is by chain to the countershaft gear box and thence by belt. It is a neat looking machine and well adapted for solo or sidecar work. The belt pulleys of this new model, it will be noticed, are of almost equal size.”

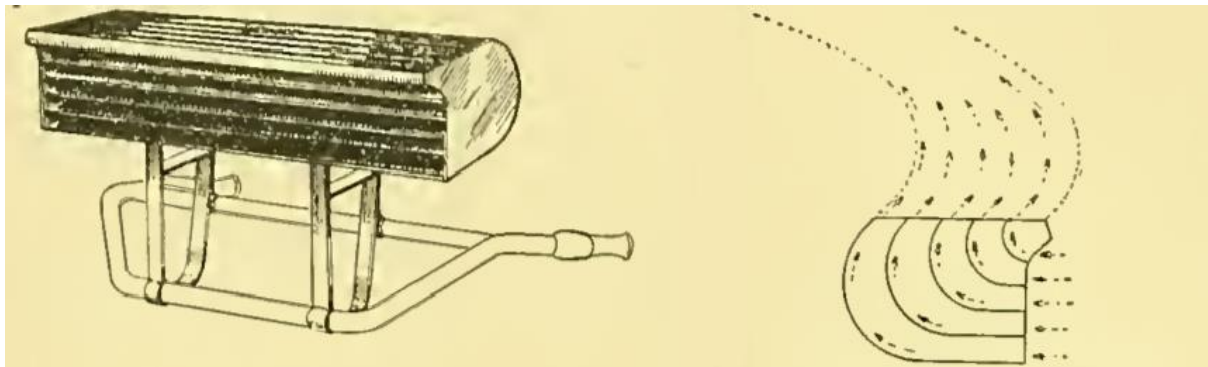
WHEN IXION WAXED LYRICAL he did it in style...”The Evening Promenade: A year or two ago I called the attention of motor cycling tailors to the fact that nine motor cyclists out of ten, after a speedy day in the saddle, like to stroll round their sleeping town, and to turn their radiant smiles on the damosels of the vicinity; a practice as natural as it is doubtless reprehensible. If they wear their dusty overalls, Phyllis is not kind; if they emerge in their house clothes, they catch cold when they lean against a gate in some rural lane, and whisper sweet nothings into Phyllis’s rosy ear. The only solution I then attained was a patent coat, about which the worst thing was its name, the ‘Legstenshun’, or words to that effect. It was a good coat, and I still have it; it is more than a coat, for it has disappearing leggings buttoned inside its skirt; it has served me well, but the Phyllises of my touring routes have never seen it, for it is designed to be worn in the saddle, and the dust from it ruined, the chiffons of the first Phyllis who came under its proximity. (We live and learn.) But the other week I found something better suited to the reprehensible brigade. I was smiting the nimble gutty in company with a well-known trade magnate, when a terrific cloud burst caught us just as he was playing his third in a bunker. What time I was burrowing for shelter in a gorse bush, and shouting to my cowering caddie to fetch my oilies from the clubhouse garage, his caddie produced a small satchel measuring about 10inx4in from his golf bag, and shook out of it a featherweight waterproof of smart cut, scaling a couple of pounds or so; and, oddly enough, it turned out to hail from the very firm which makes my oilies, to wit, Barbour, of South Shields. A similar vanity bag now graces the top of my carrier on all long runs, and after a gruelling day in the saddle I turn on to the local boulevards as smart as if I had stepped out of a band box; and I catch no more of those awful ‘gate-colds.’” It also sounds like the parent of the lightweight oversuit that caught on in the 1970s.



“A dozen Dutch motor cyclists giving an exhibition ride in a circle. Dutch military motor cyclists demonstrating their prowess before HM Queen Wilhelmina at the Hague.”

“THE VAN ZILE AIR DEFLECTOR is a device intended to shield the motor cyclist from wind and dust, and is attached to the handle-bar by means of a metal bracket, which has a vertical

adjustment of three inches. It is constructed of curved metal vanes, which are secured to side plates, and the wind entering the front of the apparatus is deflected upwards away from the rider at an angle of 45°. Consequently, air currents coming along above the deflector are forced in an inclined direction over the rider's head. Dust, it is claimed, is treated in the same manner, goggles thereby being dispensed with. The Van Zile deflector may also be fitted to a sidecar in the place of a wind screen. It is stated that a pipe or cigarette may be lighted in the sidecar quite easily while travelling at fairly high speeds. The weight is nine pounds. Although few English riders would care to have this weight on the handle-bars, it would not be objected to in the United States, where machines are much heavier."



The Van Zile air deflector...It's crazy but it just might work...

THE MOTOR CYCLE WAS not averse to a spot of self-parody. Witness these excerpts from a pastiche of its regular 'hints and tips' feature..."STANDS: These are made in two types—the kick-up and the fall-down, the latter being most popular. They are chiefly used for spoiling the engine. A front wheel stand makes a somewhat inefficient substitute for a brick under the crank case. KICK STARTERS: It has been frequently urged against motor cycling that it provides the rider with no exercise, and to remedy this defect the kick starter has been introduced. When the kicker has got comfortably warm, the engine may be started by pushing on the low gear in the usual way. GENERATORS: The simple drip generator being generally satisfactory and reliable, manufacturers are now turning their attention to the production of complicated automatic regulating devices; the automatic generator furnishes much entertainment through its pleasing habit of watering the road, wasting the gas, and allowing the light to go out suddenly. It should be added that automatic generators burn beautifully in the maker's showroom. PETROL: Alleged to be distilled from petroleum; it is treated in process of manufacture by the addition of paraffin and dirt, and sold at enormous prices. In the old days it was highly volatile and inflammable, but of late has not shown so much propensity to burn or explode rapidly, especially in an engine. MAGNETOS: It having recently occurred to magneto manufacturers that water is apt to cause trouble on an unprotected machine, various types of water-tight magnetos have been introduced. As a means of carrying a spare supply, however, they are not very satisfactory, and it is better to put it straight into the generator. UNIONS: Fitted to a pipe which would otherwise be petrol-tight, these serve to indicate whether any petrol is actually passing. On the carburettor inlet pipe, they act as additional air ports to keep the engine cool... ENGINES: Anything that revolves with a stuttering sound. An apparatus for burning trouser-legs. An oil-slinger...An engine will climb anything except when a dispassionate onlooker is present, and travel at any speed up to sixty when no stop-watch is available. More remarkable stories are extant about engines than about fish... THE SPEEDOMETER: An instrument for encouraging the terminological inexactitude industry. A common fallacy is to suppose that the rider fits one in order to discover the speed at which he travels; the reverse is the case. The most accurate speedo-meters are those in which

the hand waggles over a space of five miles an hour either way, as this leaves a sporting chance that it may sometimes touch the correct figure. When telling your friends about it, take the highest figure; in a police court, the lowest. HEAD LAMPS: Manufacturers, recognising the desirability of making their accessories universally adaptable, take great pains to ensure that no lamp shall fit any other maker's bracket. Brackets are supplied with 7/8in fittings for a 1in bar, and vice versa. CLUTCHES: A clutch can be relied upon to grip when it is desired to effect a hurried disengagement in traffic; and to free itself easily when climbing a stiff hill in a non-stop trial. As a form of humorous entertainment, the spectacle of a clutch start by a novice takes a lot of beating."

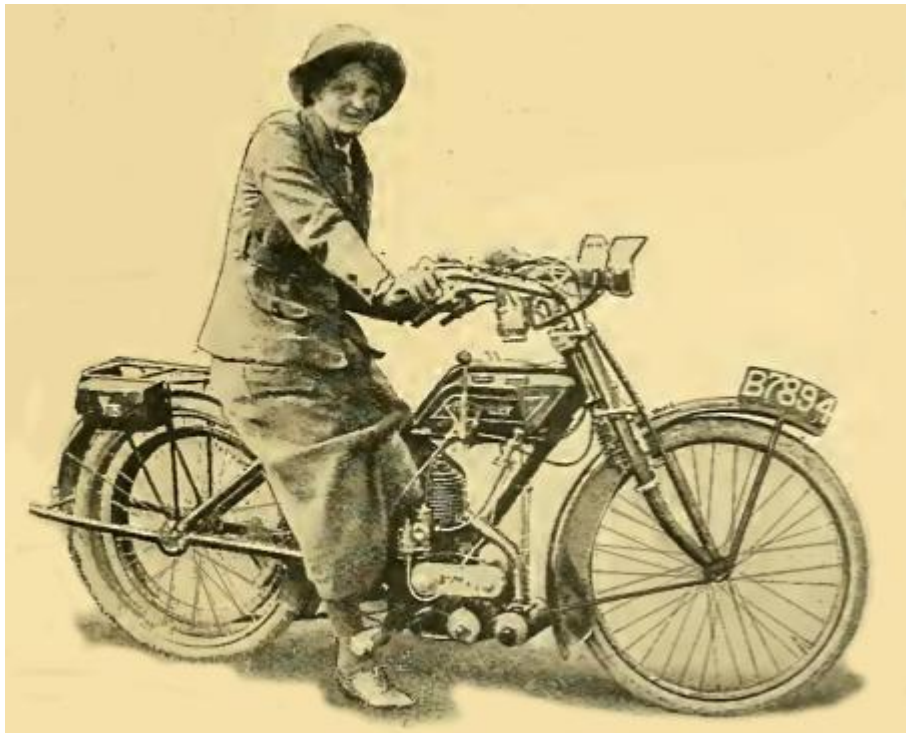


In Cincinnati "special

buildings have been set up in various parts of the city with accommodation for two or three motor cycles, besides the necessary police. These men are used for special emergency work such as burglaries. By this means Cincinnati is now freer of burglars and other wrong doers than at any time in her history."

"A WEEK OR TWO AGO the two firms which have been supplying all the despatch riders' motor cycles for the Government (which, be it understood, has never quite represented their maximum output) received notice of a reduction in the War Office requirements, which means that larger number of motor cycles have been released for other channels. We believe we are right in stating that the surplus is enabling these firms partly to satisfy urgent Overseas orders...The Clyno and P&M companies are apparently the only firms whose entire output of motor cycles is absorbed by the British Government, and it would appear that there is little prospect of change for some time to come."

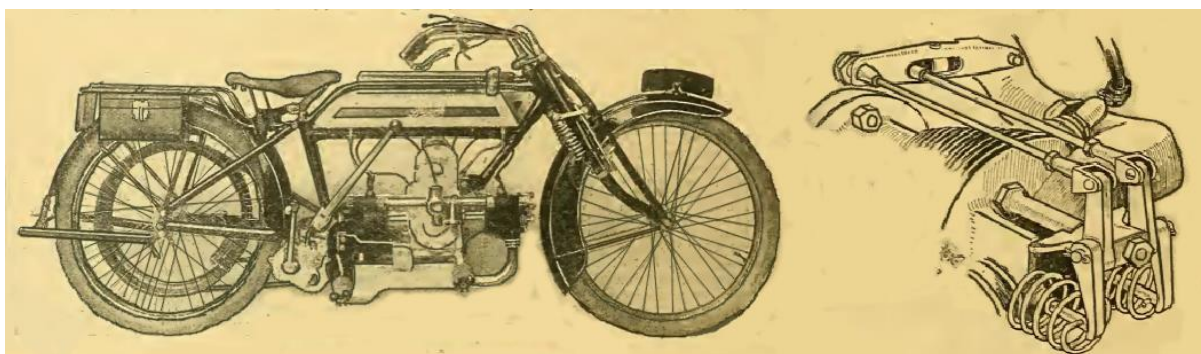
"USEFUL SPECIAL CONSTABLES: Two Berkshire special constables who had had warning that a German was travelling by motor cycle from Gloucester to London, successfully waited and arrested him. He is now, we understand, interned."



“A lady despatch rider attached to the Blackpool Women’s Volunteer Reserve Corps starting off to deliver a message to HQ. Many lady motor cyclists are performing excellent work in connection with the war. Incidentally, in connection with our recruiting work, we should like to acknowledge the offer of the services of several lady motor cyclists.”

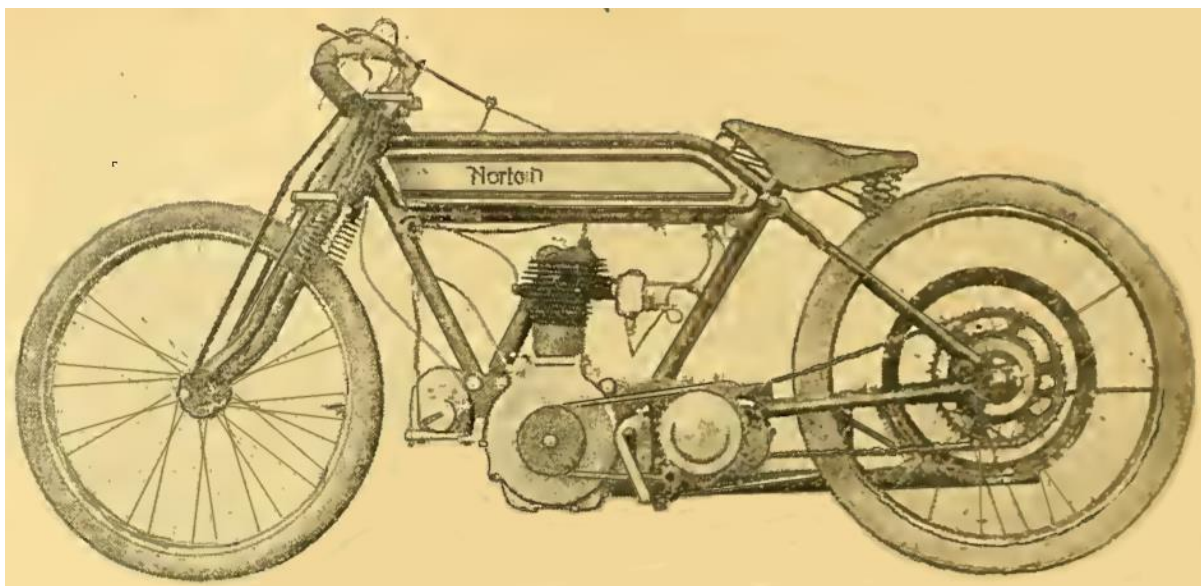
“JOHN R ASHWORTH, OF ROSSENDALE, was summoned at Reedley Police Court...for driving a motor cycle without rear light. Defendant said he had been to Glasgow for a week’s holiday, and when returning had an accident. He could not get anyone to repair his machine, and he had to sit up all night doing the work himself. When he looked to the rear light he found he had lost the generator. He purchased an electric light, and it answered for a time, but when he got to Kirkby Lonsdale it would not act. He then purchased a cycle oil lamp, and this acted until he got to Gisburn. It then went out, and it took him four hours to come from Gisburn to where he was reported. He used two boxes of matches in trying to get a light and spent 15s 6d. He had to be at his work at six o’clock in the morning, but on account of the regulations he had to stay until it was light. Defendant pointed out he had lost two nights’ sleep, and he was compelled to be at his work, for the firm were on Government work. Supt Thompson: ‘I wish to withdraw the case. Defendant seems to have been punished enough.’ The case was, accordingly withdrawn.”

“ACU REPAIRER IN DARKEST AFRICA: We do not suppose that many people make motor cycle tours in Uganda, but it is interesting to know that a repairer in that far off country has applied to the ACU for official appointment.”



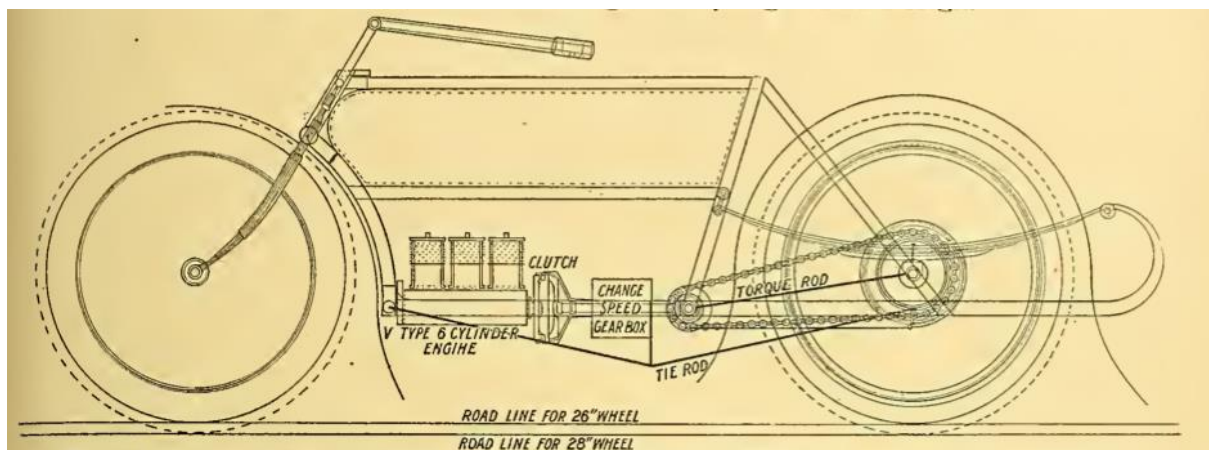
BROUGH'S 3½hp 497CC OHV FLAT TWIN gained a three-speed Sturmey-Archer countershaft gearbox. The TT model was guaranteed to do 65mph; "the entire power unit, consisting of engine, carburetter, magneto and silencer, can be removed from the frame in five minutes...the engine will start at the first kick even in the coldest weather, and will then tick over quite slowly, or if required exert as much as 7hp for hours at a stretch".

"FROM EVIDENCE WHICH HAS reached us, it would appear that some private owners of motor cycles are inconsiderate enough to imagine that they should receive the same prompt attention to repairs as they have been in the habit of receiving in pre-war days...The difficulties these firms have to contend with owing to the shortage of men and material are enormous and almost beyond comprehension unless one has a knowledge of the actual situation. Every branch of the business is affected. Letters cannot be replied to promptly, as so many of the clerical staff have answered their country's call, whilst, of course, the engineering side is even more seriously affected, owing to many firms devoting practically all their energies to the production of munitions of war." A sentiment that, 25 years later, would be expressed rather more succinctly as, "Don't you know there's a war on?"



"On the occasion of a recent visit to Brooklands we were lucky enough to meet with DR O'Donovan, the well-known Norton exponent, who showed us his latest chain-driven [500cc] racing model...Being designed purely for racing purposes, it is provided with a dummy gear box, serving merely as a support for the bearings of the countershaft. It will be noted that a large Binks racing carburetter is fitted, and a dummy belt rim for the brake, which is of ample dimensions. The machine is to be used for record-breaking."

“AS FAR BACK AS THE YEAR 1906, *The Motor Cycle* was, as now, advocating the use of rear springing for motor cycles, and some very interesting designs came to light during a competition known as The Motor Cycle Improvement Competition organised by this journal in that year. The designs gaining first, second, and third positions all incorporated a rear springing device of some kind. The winning design, submitted by Lord Tollemache, which is illustrated from the original drawing, contains some very novel ideas. The rear springing is carried out by means of two half-elliptic springs supported at their farthest extremity by a substantial extension of the bicycle frame. This



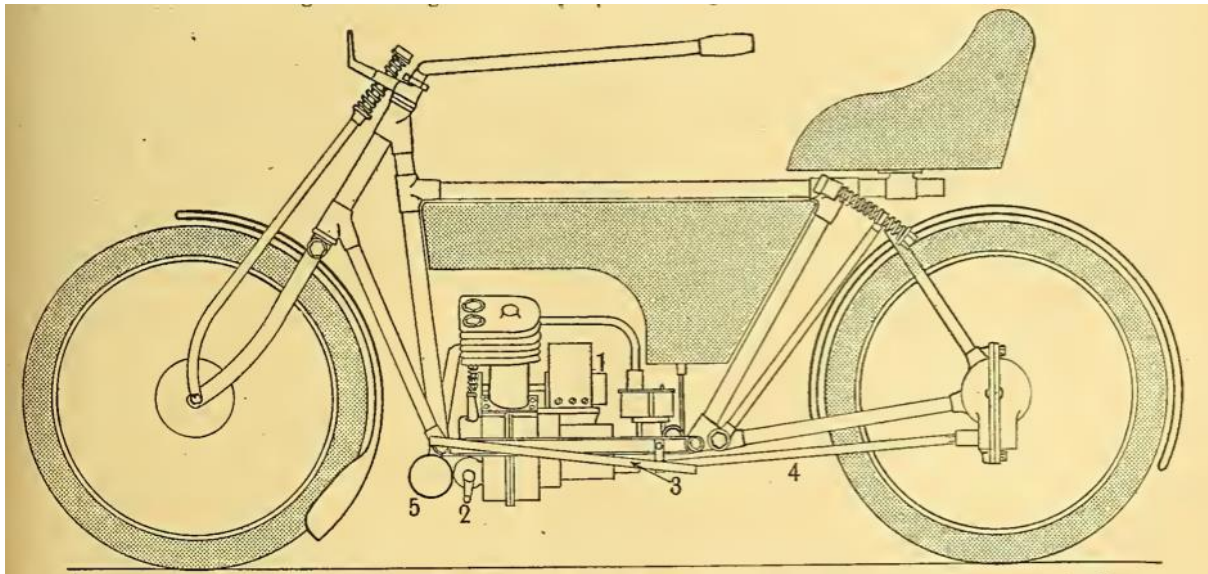
“The winning design in *The Motor Cycle* Improvement Competition, submitted by Lord Tollemache. It has a 7-8hp six-cylinder V type engine, countershaft gear box, and frame sprung fore and aft.”

design would hardly conform to modern ideas so well as that gaining third place, also illustrated from the original drawing. It is very interesting to note that this design was submitted by Mr Alfred Scott, the well-known designer of the famous Scott motor cycle. It is curious that in his letter accompanying the design, Mr. Scott mentions that he does not favour an open frame. Of course, as everyone knows, the present-day Scott is one of the very few machines which are turned out with an open frame as standard. The rear springing device in this design is very simple, the drawing being practically self-explanatory, the rear portion of the frame working on a pivot and supported by two spiral springs beneath the saddle. The second prize design, submitted by Mr Pilkington, incorporates the cantilever seat pillar, which was shortly afterwards adopted by the Rex Manufacturing Co.”

SPRING FRAMES IN 1906: Sir,— I noticed in last week’s issue a reproduction of the design of spring frame for which you awarded a prize to Mr Alfred Scott, of Leeds, in 1906, with remarks attributing the same to me, and commenting upon my curious change of opinion. Upon its first appearance in your paper I foresaw possible confusion later on; but, whilst complimenting the designer upon his award, permit me to affirm the constancy of my views on frame design, and although I rejoice in the same name, and appreciate the charms of the same district, ‘I deny with both hands’ any complicity in the affair.

ALFRED A SCOTT, of Bradford.

[We offer our apology for the incorrect assumption that the two Yorkshire motor cycle designers of the same name were one and the same person—Ed.]



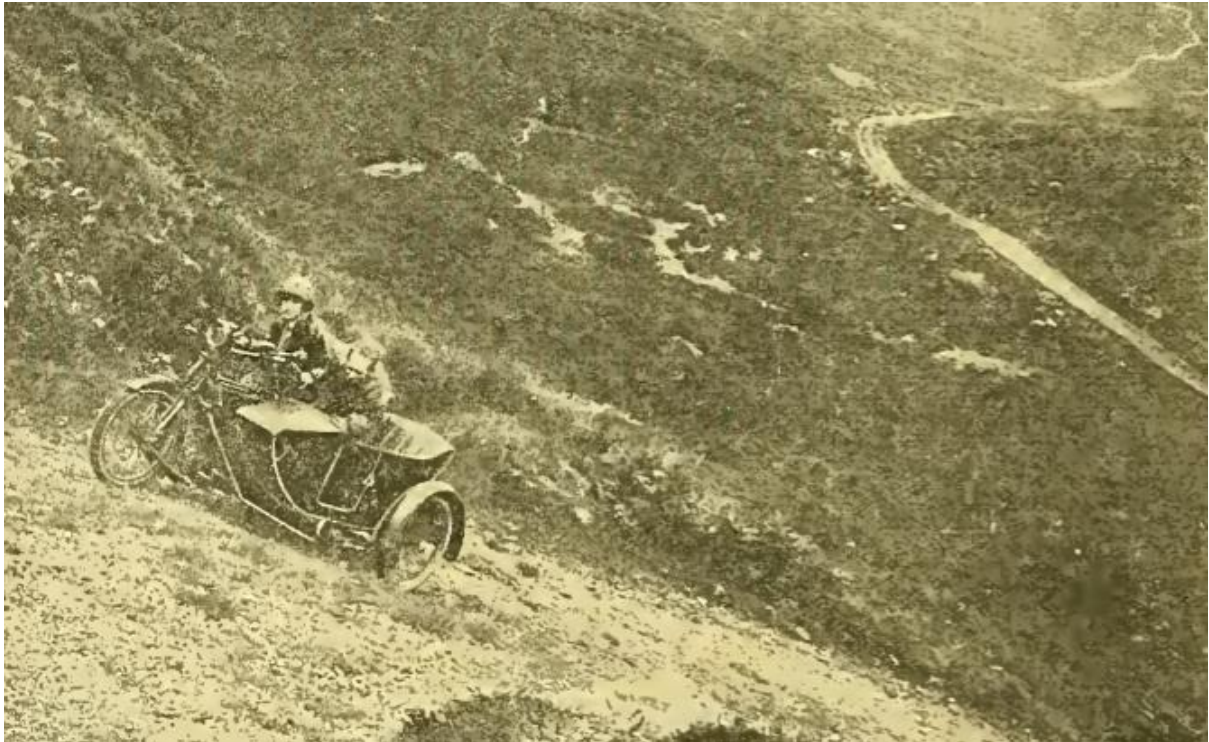
“Design also embodying a spring frame, for which the third prize was awarded to Mr Alfred Scott, of Leeds. The parts numbered are: (1) Magneto. (2) Starting handle. (3) Footboards. (4) Propeller-shaft. (5) Silencer.”

FOUR RIDERS WERE FINED £1 apiece for not having two independent brakes on their bikes. The Blue ‘Un commented: “It is up to manufacturers and agents to see that their machines are properly equipped to comply with legal requirements before sending them out.”

“IT WAS A CURIOUS SIGHT the other night, when the Zeppelins were over the London district, to see motor cycles and sidecar combinations proceeding without lights.”

“THE CORK & DMCC MAY WELL be proud of its record in connection with the war. The proportion of its membership that has joined the Forces is quite as high as, if indeed it is not higher than, any similar organisation in the United Kingdom. All the motor cyclists attached to the 10th Division Signal Company were members of the club.”

“THE AMERICAN MOTOR CYCLE INDUSTRY is awake to the opportunities with which the war has pro- vided it. On August 19th last the Motor Cycle Illustrated of New York published a leader emphasising the fact that Germany, France, and England will do about £2,400,000 less trade in motor cycles, ordinary bicycles, and parts with foreign countries than they did in 1914...The American Government departments inform our contemporary that the fall in British motor cycle and cycle exports alone will be more than 50% as compared with 1914, a fall which probably represents an actual shrinkage of at least 75% on the sum which would have been realised in times of peace...Against this The Motor Cycle has ascertained definitely from the Board of Trade that machines bought by the Government and transported in Government ships do not figure in the Board of Trade returns.”



“Mrs Mary Riley made the first sidecar crossing of Southern Lakeland from East to West on her 6hp Enfield-JAP. She’s pictured “tackling the lower hairpin on Hardknott Pass. Wrynose Gap, with the road curling from its crest, is seen in the background.”

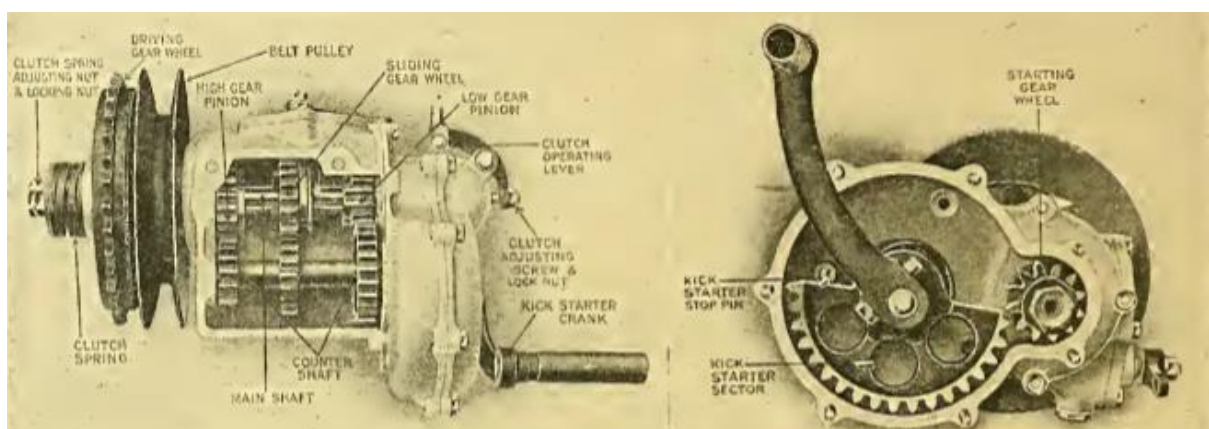
“A COURSE OF BABY TWO-STROKES has made a milksop of me,” Ixion confessed, “and, incidentally, it has spoilt the quondam refinement of my driving. It accustomed me to slamming the throttle recklessly open whenever I wanted an acceleration, however mild, for the babies do not get away with it like a TT racer. When summer arrived, I transferred my person to a 4hp Douglas and a 6hp Motosacoche, and applied the same throttle-slamming methods to them. Gee whizz the bicycle went ahead all right in each case, but it was very nearly a case of ‘also ran’ with poor me. My sorrowing wife has been instructed to have the following legend inscribed on my tombstone, ‘Unseated by acceleration’. Joking apart, the way in which the modern twin jumps if its throttle is banged open is a positive revelation. I should much like to know how its capacity in this respect compares with a racing car. Both my twins are fitted with sidecar gears, and the leap they make under my crude driving methods is literally colossal. The difference between sidecar work with a 3½hp and a 600cc or 750cc twin is indescribable.”



"An American group:

Seated on the Excelsior motor cycle is Thomas Woods, aged 21, height 6ft 3in, weight 452lb, whilst standing on the carrier is Albert Anderson, also aged 21, height 4ft 1in, weight 831b."

"I HAVE JUST HAD ANOTHER SPIN on the new 7-9hp Harley-Davidson, and a jolly good mount it is," wrote Ixion. "It is not every leviathan which can do 4mph on top gear, and accelerate to a speed which only lunatics and experts consider safe on the public roads. Out of its general excellences I select a single item for commendation to the British trade. My sample was finished in a neat and workmanlike grey, and the enamel extended to the hooter and lamps...Some British accessory dealers have got as far as blacking the bodies of their lamps and horns, but they usually cancel the good work by adding a plated rim or knob or two, just to relieve the monotony, so that the inevitable selvyt and metal polish cannot be given away after all. When will the trade understand that nobody but the very green novice really enjoys the daily furbishing of a multitude of plated twiddlies?...let us howl and rage till the nickel-plating shops find their occupation gone, and some genius comes along with an oxidising process which cannot tarnish, and yet will not wear brown or shiny, as some of the earlier black platings are known to do."



"A very soundly constructed three-speed gear box used on more than one make of machine is the Ariel, which hails from the Ariel Works, Ltd, Birmingham. The high and low gear pinions are loosely mounted on the main-shaft, while the sliding gear wheel is free to slide but not to rotate

upon this same shaft. The high gear pinion also carries an extension or sleeve upon which the driven pulley is mounted.”

“TWO PRIVATES OF THE West Riding Regiment, Henry Columbine and J Hawcroft, were recently sentenced at Mansfield to two months’ hard labour for stealing a motor cycle. They took the machine from outside the Grand Theatre, Mansfield, and rode it to Yorkshire, getting free supplies of petrol on the way by stating that they were despatch riders.”

“HERE IS A STRIKING STORY from *The Motor in Australia*. Henri Meyer was a racing-cyclist. He was a German, but had spent twenty years of his life in France, and could speak French like a native. Also, he had begun to look more like a Frenchman than a German, and disguised as a French sergeant-major he seems to have had a successful career as a spy. His method was to enter the lines, and represent himself as an officer belonging to some other division (the one whose whereabouts he wanted to discover for his officers); and enquire how to reach this corps. All went well until he ran into a party of Australian motor cycle despatch riders, some of whom had raced with him on the track. Someone called out, ‘Hello, Meyer, what are you doing here?’ His yarn was unconvincing to men who personally knew him. He was then found to have incriminating German passes concealed in his clothes. He was shot as a spy.”

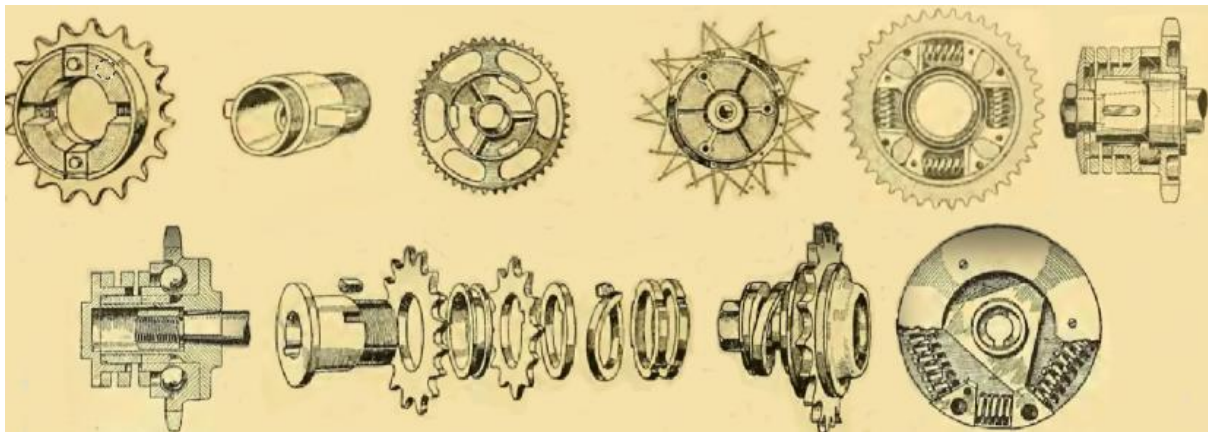
EFFIE HOTCHKISS DECIDED TO VISIT the Panama-Pacific Exposition in San Francisco. She lived in Brooklyn, New York. No problem; with her mum Avis in the sidecar of her Harley F-11 combo she headed west, becoming the first woman to ride across the USA. After the show they rode home again to complete a 9,000-mile excursion. “I got a lot of non-family discouragement,” Effie recalled in her memoir. “Decent roads would be non-existent for most of the way; there would be deserts to cross, high mountains to climb, lack of water, no repair shop, no this and no that. Some things there would be, such as wild animals, wilder Indians, probably floods, maybe cyclones and other offhand acts of God; until it began to sound so interesting I would not have missed it for the world.”



Effie Hotchkiss

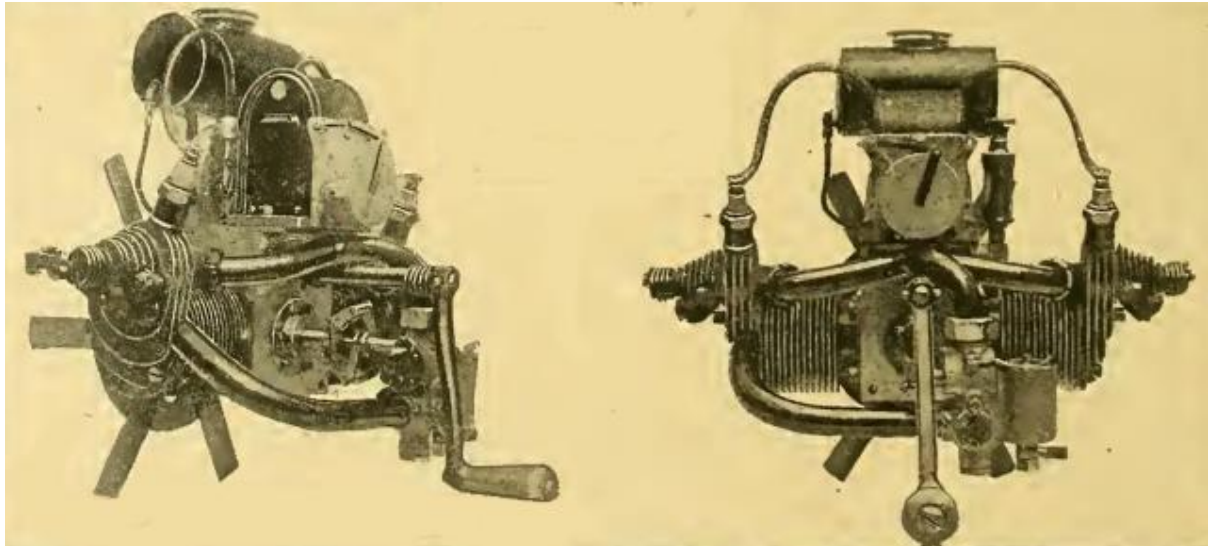
and her mum crossed the USA twice.

“IT HAS BEEN OBSERVED, and those who have ridden machines of early pattern will not dispute the statement, that the single-cylinder petrol engine imparts its power in a series of short, sharp jerks. This irregular motion is not, of course, so great in the properly balanced engines of to-day as it was in the engines of ten years ago, but, nevertheless, it is sufficiently pronounced at low speeds to upset the comfort of the rider unless the transmission be elastic enough to absorb the shock of the explosion strokes...It became obvious that if the chain drive were to come to anything the power must be conveyed through some device that would absorb the sudden kick of the power stroke, and impart a smooth, steady torque to the rear wheel...The efficiency of the various devices that have since been produced is amply proved by the sweet running of the present day chain-driven single, for every touring machine of this type is fitted with a transmission shock absorber of some kind...Considering that the transmission shock absorber is of such vital importance that it has brought about the complete success of the chain-driven ‘big single’, it is somewhat surprising that many riders are not even aware that such a device is incorporated in the driving mechanism of their machines...It is interesting to note the different lines on which manufacturers have worked with regard to transmission shock absorbers...”



Top row: Lea-Francis engine-shaft shock absorber; Royal Enfield rear wheel sprocket shock absorber; Humber rear wheel sprocket shock absorber; Sunbeam engine shaft cush drive. Bottom row: Rex engine shaft spring drive; P&M slipping sprocket; AJS slipping sprocket; BSA engine-shaft spring drive.

ABC SUSPENDED MOTOR CYCLE production to concentrate on war work, including a 248cc flat twin starter motor for seaplanes, airships and motorboats. It revved to over 4,000rpm, weighed just over 23lb (without the magneto, carb or cooling fan the bare engine was exactly 14lb) and produced over 4hp. The Motor Cycle commented: “What a fascinating baby bicycle could be rigged up with this delicious little engine, the workmanship of which is absolutely superb...The crankshaft is fitted with ABC roller bearings, and weighs 15oz, a complete connecting rod weighing 2oz...The absence of vibration is so extraordinary that if a finger is pressed on the magneto at high rates of rpm it is difficult to determine by touch alone whether the engine is running or not...As an experiment, the engine has been run on full throttle without any load, and has attained the remarkable speed of 8,000rpm. This is probably a world’s record for a reciprocating engine.”

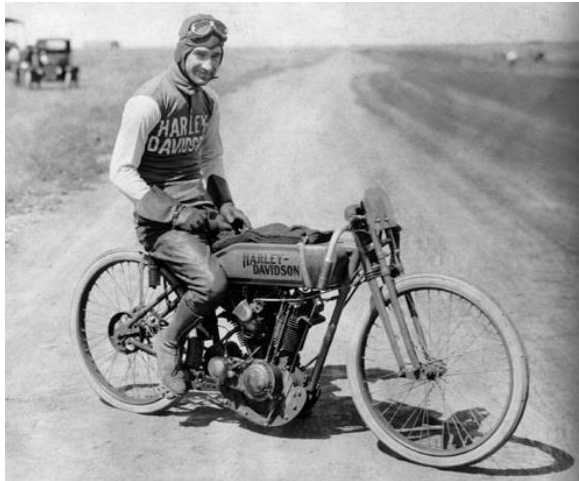


ABC produced a diminutive flat twin for the government; the firm's successful 500cc twin was powering searchlight dynamos.

"WE HAVE RECEIVED A VERY cheery letter from Southcomb May, hon sec of the Motor Cycling Club, who joined the Motor Machine Gun Service some weeks ago. May has just received his second stripe, and speaks very highly of the Service and how much he is enjoying it. So far the new batteries have done little motor cycling, but the Scotts formerly used by a disbanded section are being pressed into the service of the MMGS for training purposes."

"THE OPINION OF THE INDIAN tester who gave the new 7hp, side by side valve model an exhaustive test (covering 1,655½ miles in 3 days 9 hours 15 minutes) is interesting and amusing. He writes 'Take it from me that you have made a motor that is a world beater on all kinds of roads. I'll stack it against all creation to bring home the bacon anywhere, any time. It's a bear, a big, husky, lick-all-comers machine—that 1916 Indian. It hits me where I live.'"

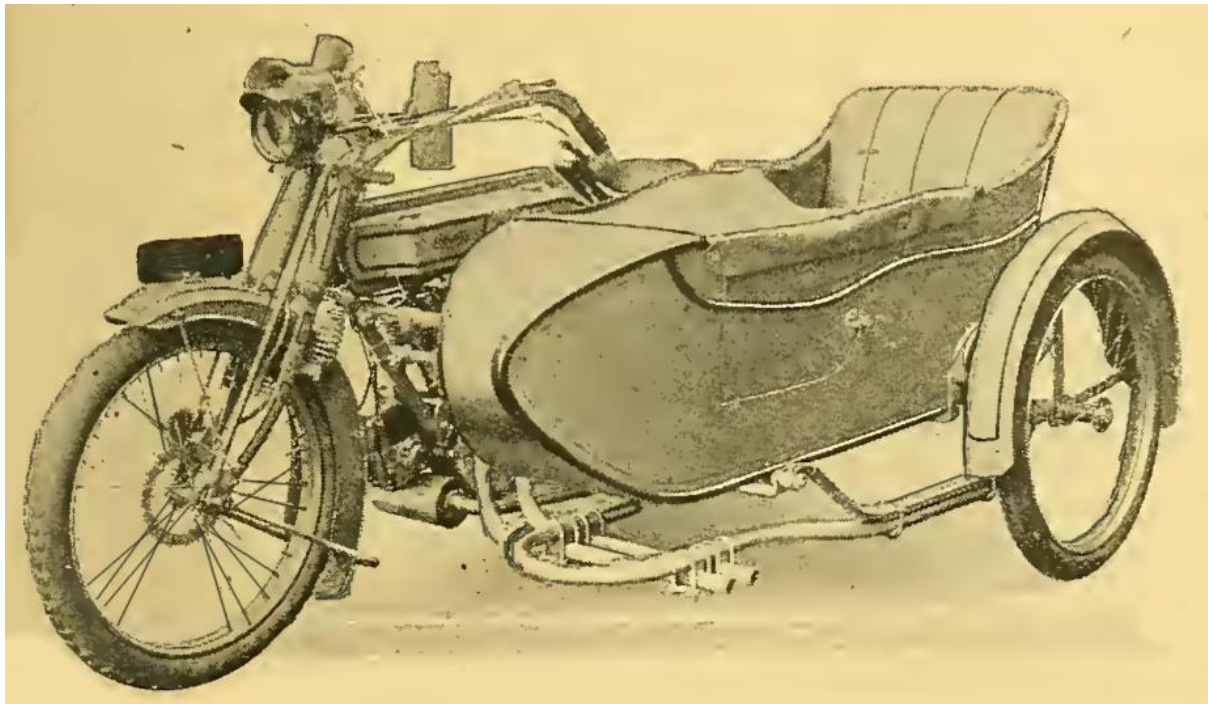
"A 300 MILES TRACK RACE was held at Chicago and some big speeds were put up. Most of the American crack riders competed, and competition was very keen. The first three were Goudy (Excelsior), Carroll (Indian) and Weishaar (Harley-Davidson). Goudy's average speed was 85.71mph, and it is claimed to be a world record. He covered the 200 miles at a speed of 86.76mph. The time for the 100 miles was higher still, ie, 89.11mph, this being made by Otto Walker on a Harley-Davidson, Both these times are records." Walker's Harley featured an eight-valve layout pioneered by Indian in 1910. When designer Bill Ottaway ran into technical problems he couldn't handle he persuaded Walter Davidson to hire British maestro Harry Ricardo and all was well.



Otto Walker (Harley-Davidson) set a 100-mile record; Carl Goudy (Excelsior) won the race and set a 300-mile record.

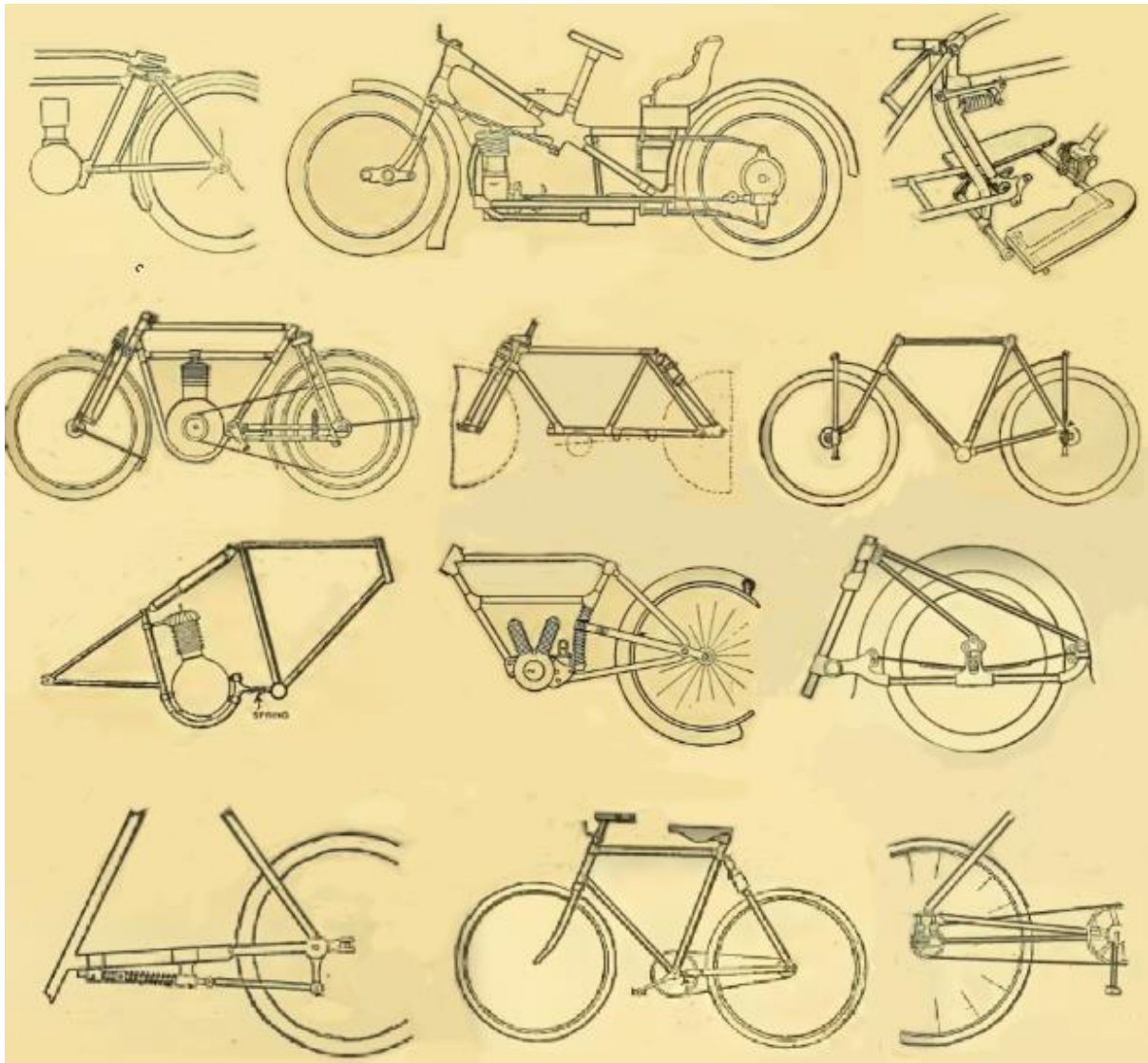
“THE ATHLETES’ VOLUNTEER Force, now known as the 10th Essex Volunteer Battalion, is forming a motor cycle section.”

“THE NEW IMPORT DUTY of 33½% on foreign-made cars, motor cycles and parts (including tyres and accessories) has come into effect. Motorists want to know why the petrol distributors saw fit to add another two-pence to petrol, making fivepence a gallon increase...*The Motor Cycle* opines that one good effect of the Budget will be to induce American manufacturers to send their machines over to this country minus mudguards, chains, tanks, rims, and tyres, and arrange for these to be fitted on arrival in this country. In this way the tariff would largely be avoided and the British accessory maker would benefit to a considerable extent. Generally speaking, the new import duty has been favourably received by motorists. It was clear that something must be done to protect the important British industry, whose hands were tied, so to speak, manufacturing the all-important munitions. No Britisher objects to healthy competition in normal times.”

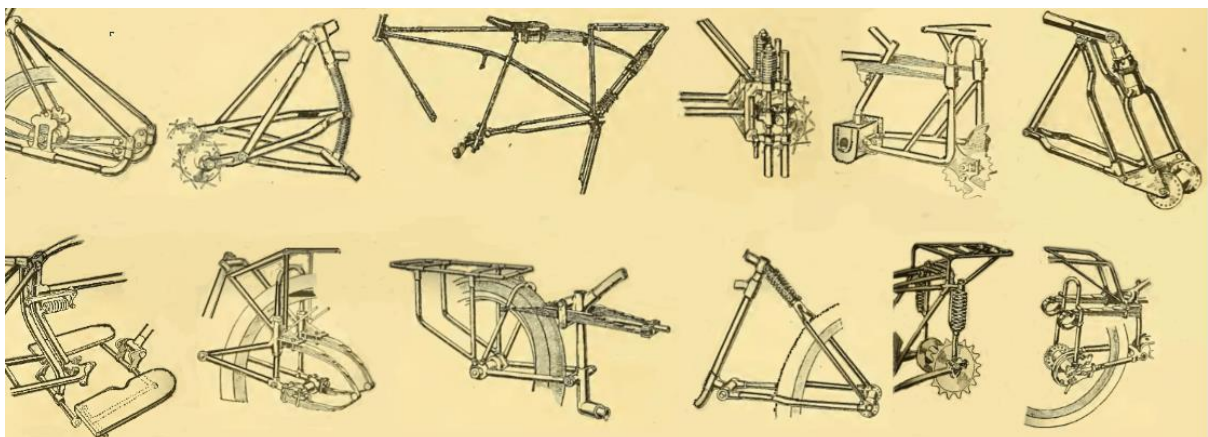


Brown Brothers revived a proud name for its 6hp JAP-powered Vindec sidecar outfit, lauded by the Blue 'Un as "one of the best motor cycle productions ever placed on the market by Messrs Brown Bros...this is a remarkably smart combination, well-equipped and well-designed, and sold at quite a moderate price".

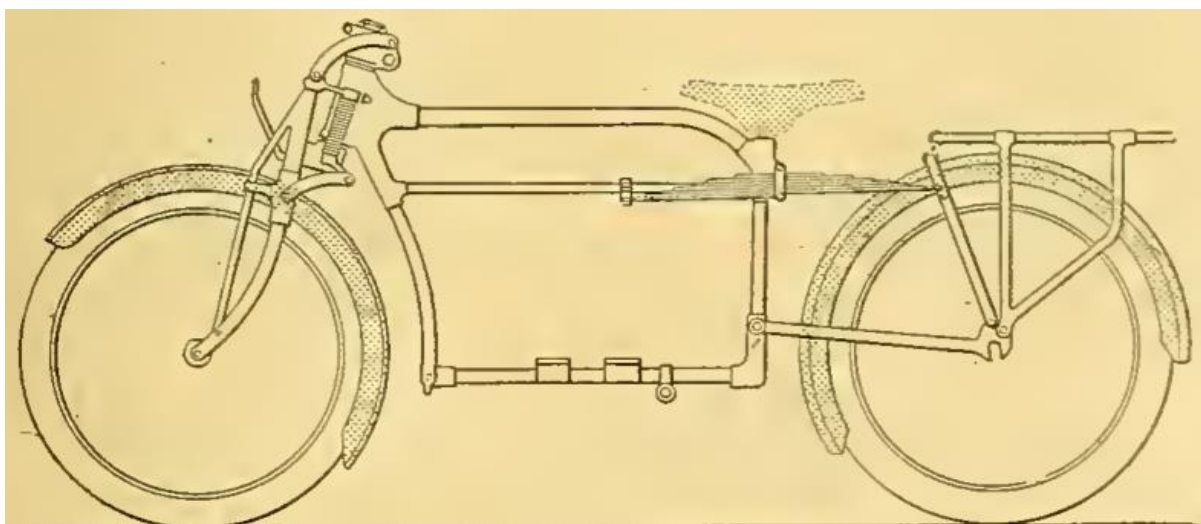
"OUR READERS NEED NO REMINDER of our firm belief that the motor cycle of the future will have a spring frame; for years past we have encouraged this by every possible means. More than usual attention has been focussed on this problem this year, and this may be put down to several causes, among them the ever increasing demand for spring framed machines from Overseas and the deterioration of roads throughout Great Britain due to the excessive military transport occasioned by the war. A casual glance through issues of The Motor Cycle during the past few months will show the activity being displayed in this direction by designers and makers, and it has been considered an opportune moment to place before our readers a collection of drawings showing some well known rear springing systems and other designs which have followed our campaign in favour of rear sprung motor cycles. The sketches are practically self-explanatory, but it should be added that the problem of satisfactorily springing the rear portion of a motor cycle is by no means an easy one ; the difficulties to be overcome are more numerous than would appear at first sight."



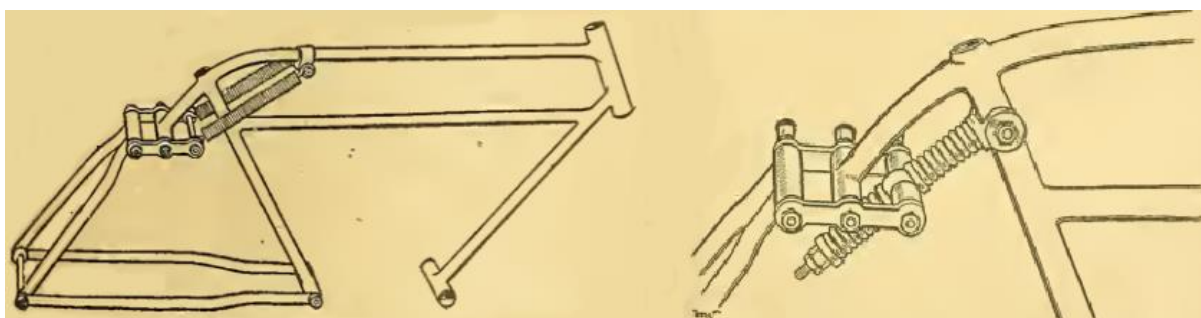
The Motor Cycle, having published pages of readers' warnings of deteriorating roads (many cut up by military traffic or expanding bus routes) repeated its plea to manufacturers for the widespread introduction of effective rear suspension. As part of this campaign it reviewed the options...



Spring frames. From left, top row: Jaujard, PV, Edmund, Pope, ABC, ASL. Bottom row: BAT, Van Geert, Douglas, NSU, Matchless, Indian.



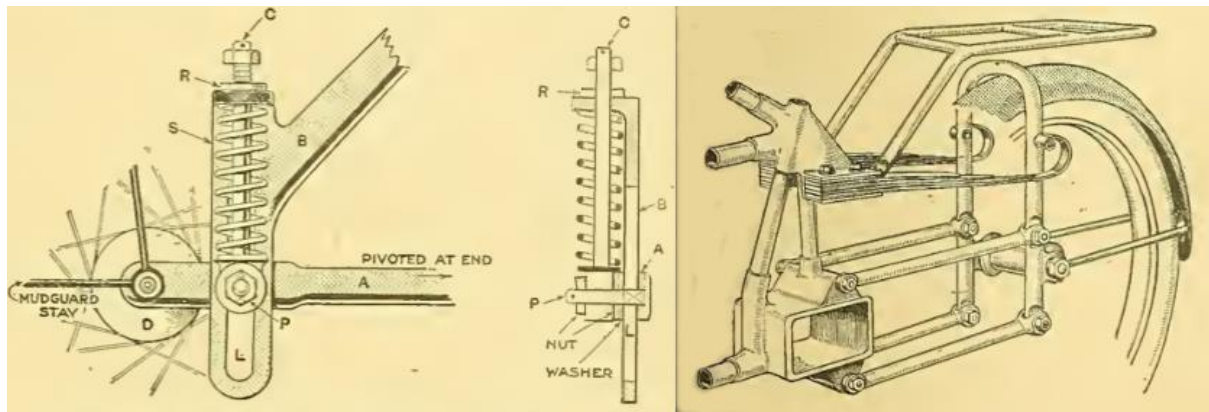
Douglas Bros' patented leafspring rear suspension system was designed to reduce unsprung weight to a minimum.



Essex enthusiast Bill Mason came up with a rear suspension design that the Blue 'Un described as "ingenious and capable of further development. The right-hand illustration shows "a suggested improvement" incorporating a rebound spring; it also made room for the petrol tank. Motor cyclists would have to wait more than half a century for what is now known as cantilever suspension, but that's just what this is. Well done, Bill.

TWO MORE DESIGNS WERE REVIEWED in the same issue of *The Motor Cycle*. "A simple, though not very novel, method of rear springing has been sent to us by FL (Sheerness). The rear forks terminate in a specially formed lug containing a curved slot (this curve must be part of the circle of which the hinged chain stays form the radius, this stay being pivoted at the forward end). Through this slot passes a pin P which fits into a square in the chain stay A, flattened at this point for the purpose. A washer and nut are then placed over the pin and tightened sufficiently to allow of easy movement in the slot; the end of the bolt C is now put into position and secured with a nut and split pin. The chain stays carrying the pin and bolt are now free to rise and fall in the slot L against the pressure of the spring S, rubber blocks R being placed at the top of the lugs to check the rebound... another system of springing the rear portion of a motor cycle frame has been brought to our notice by Mr EF de Burgh Greenwood, of Lower Bebington, Cheshire. This system is illustrated in the accompanying drawing, and it will be seen that it works on the principle of a parallel rule, the two radius forks being so pivoted that the driving centre and driven centre are always nearly equidistant, thus avoiding binding of the transmission. Leaf springs are provided to govern the action of the vertical member, and these, together with the carrier, are anchored to brackets cast integral with the top lug and extended to a rear vertical member which carries the back wheel. Built into the countershaft of this machine is a machined casing, designed to accommodate the gear box. Integral with this casting are two

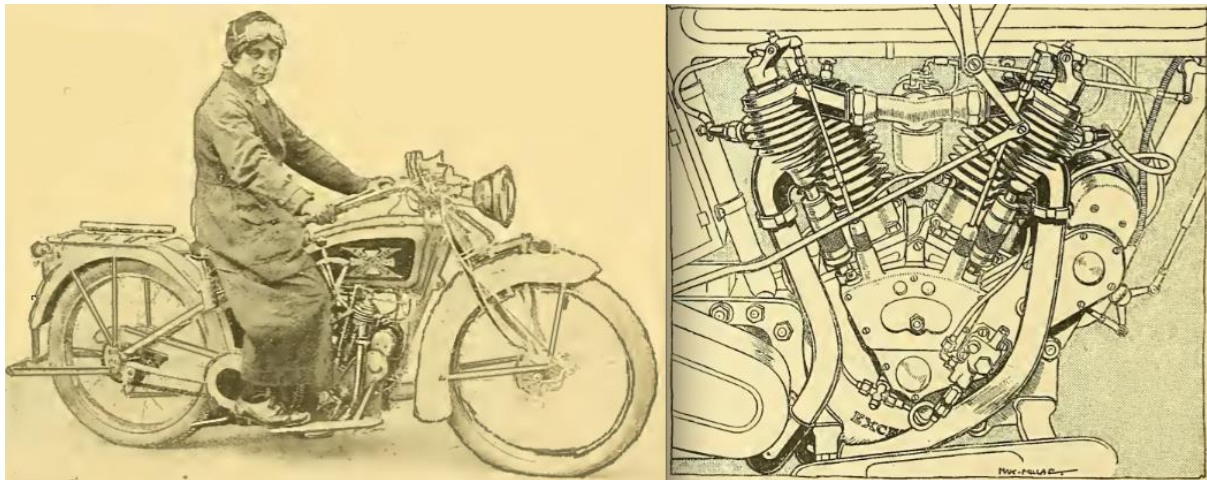
housings for the bearings of the radius forks, and so arranged that one is above and the other below the driving centre in a vertical plane.”



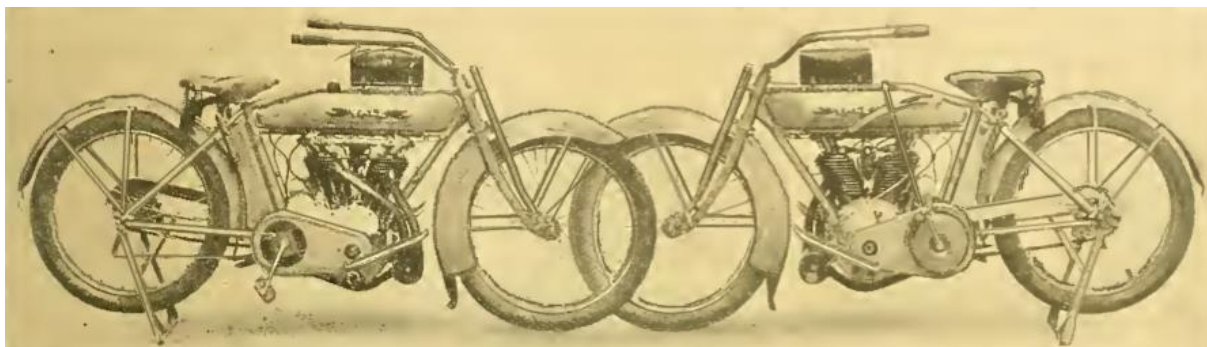
Left: The ‘simple though not novel’ suspension designed by ‘FL’; and the rather more complex system devised by the memorably named EF de Burgh Greenswood. Both would now be described as swinging arm suspension.

“A YEAR OR TWO AGO English people were accustomed, and with a good deal of justifiable pride, to consider that the few makes of American motor cycles were a good deal behind the British in point of design and construction, and, with a few exceptions, that the Yankee machine was not worth serious consideration. A little later devotees to English machines began to notice that the American two-wheelers were being built on more scientific lines, the engines were more like English power units, frames were more logical, saddles more comfortable; in short, the Yankees were complimenting us by the adoption of our own ideas and inventions...The makers of the latest Excelsior are pronouncedly pro-English in designing their new model, for in quite few details does it show anything of the Yankee touch, excepting perhaps the twist-grip handle-bar controls, and it is evident from the closest inspection that the machine has been built with an idea to durability and good service, instead of the flash ‘one-year ‘bus’ that so often hails from the American factories...The first impression when riding an Excelsior (solo) is that it is a very comfortable machine to ride...This is primarily due to the 3in tyres, excellent spring forks and saddle, and it is further added to by the handle-bar grips, saddle, and footboards being in their correct position. The next point is that the engine possesses as much flexibility as power, which further adds to comfort in driving, and it is remarkably silent in running at all speeds, a peculiarity and a virtue of many American engines, which may largely be due, in this case, to the enclosed valve springs...We noticed no sign of vibration with the engine unless travelling at well over 40mph, and then it so little obtruded itself that it excited no worry...The operation of the gears is through a substantial car type lever and quadrant on the right-hand side of the tank, in the right position for comfortable handling. The clutch is inter-controllable with the hand and foot, which reduces immensely the labour of dodging in and out of traffic, the control by hand being by the left twist grip, and with the left pedal for the foot. The arrangements of the controls and the comfortable position in which one sits on the machine make it more like driving a car than a cycle, particularly in regard to the absence of small control levers...we noticed no roll with the large tyres, and the steering could often be taken for considerable distances with ‘hands off’. A very excellent device, adding to the all-round comfortable riding of this machine, is adopted in spring-loading the saddle pillar in the frame, which, although an old ‘gadget’ in England, does not seem to be as popular as it should be...A feature which again shows that this machine is up to date in design is revealed in the ‘knock-out’ axles, thus allowing both wheels to be quickly removed whilst on the road...As with other American types of

machines, electric lighting is regarded as more or less standard equipment with the Excelsior, and it is carried out in a very neat manner as regards the wiring and attachment of lamps and horn, etc. The accumulator is carried in a metal case beneath the saddle and is kept charged by a combined Splitdorf magneto and dynamo, which take up a very small amount of space immediately in front of the engine, and is, at the same time, most accessible. The head light has two bulbs, for either town or country work, and the whole of the wiring is carried in flexible metal sheathing, held by neat little clips to the various parts of the machine. The charging of the accumulator by the mag-dynamo is entirely automatic, and it is only necessary to inspect occasionally the acid in the accumulator...Finally, we should say that the machine, although fairly heavy, is most docile for traffic work, and the throttle can be slammed open without any stuttering of the engine or hesitation. The kick-starter is on the left-hand side of the machine, and the heel arm folds away when the machine is running.”

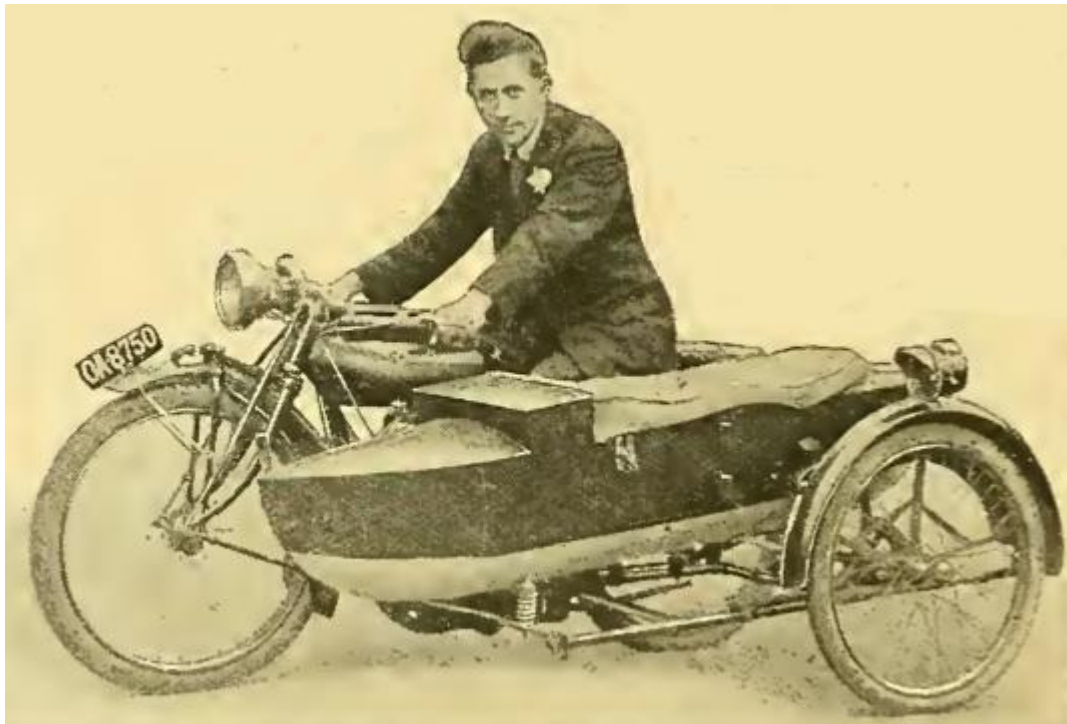


“Miss Minnie Tulley a professional rider of the American Excelsior, well known at Brooklands.”
The 7hp IOE Excelsior motor featured a positive feed oil pump which delivered oil under pressure to the big end, front cylinder, clutch three-speed gearbox.



Yale joined the list of American manufacturers looking for a slice of the British cake. Its 950cc 8hp twin had the usual American IOE layout; transmission comprised an epicyclic two-speed gear on the countershaft; the pedals doubled as a kickstart.

“THE PHELON AND MOORE WORKS are now under Government control, and the Union Jack proudly flies over the company’s busy workshops. The P&M programme for 1916 can for this reason be summed up in the phrase ‘No Change’—a remark which applies to quite a number of leading motor cycle manufacturers.”



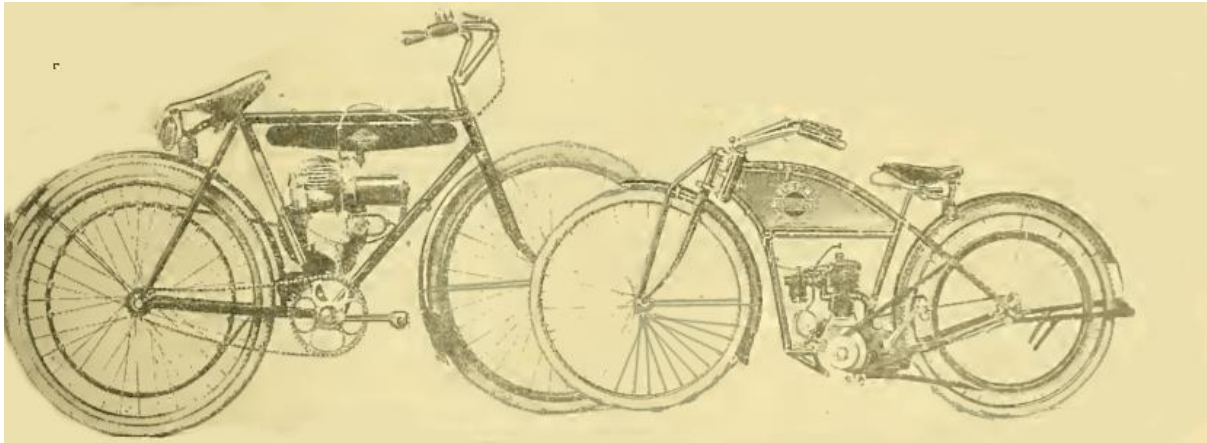
“An

attractive sporting boat-shaped sidecar attached to a 5HP Indian. It is ‘home-made’ and is a credit to the owner, Mr Hiskins, of Saltley. Birmingham.”

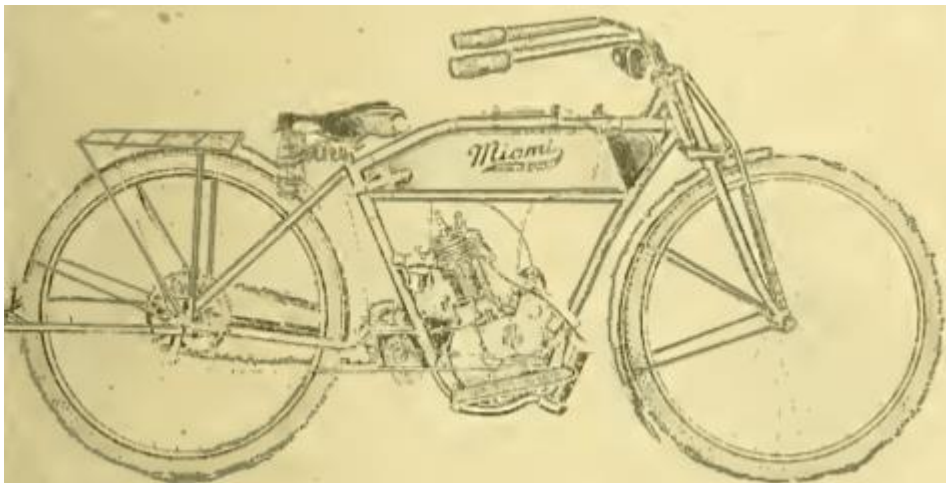
“THE AMERICANS HAVE AT LAST followed the example of British manufacturers and given some attention to lightweights, both two-stroke and four-stroke, and several machines of this type were seen at the Chicago show. In some cases they seem to have paid us the compliment of following our designs rather closely.” Ixion, under the heading ‘Those Yankees!’, remarked: “It is interesting to notice that the American manufacturers, from the Hendee Co downwards, are nibbling at the lightweight. For a long time past the Schickel has been almost the only home-made two- stroke on their market, but there are a lot of debutantes in that field this autumn— beg pardon, ‘this fall’, I should say; and precious ugly little beasts some of them are. The big Yankee twin conceals its native ugliness because all the odd corners are filled up with gear of one sort or another, but when they come to house a baby engine in a lonely corner of a half-empty frame, the American’s lack of an eye for beauty is sadly obvious.”



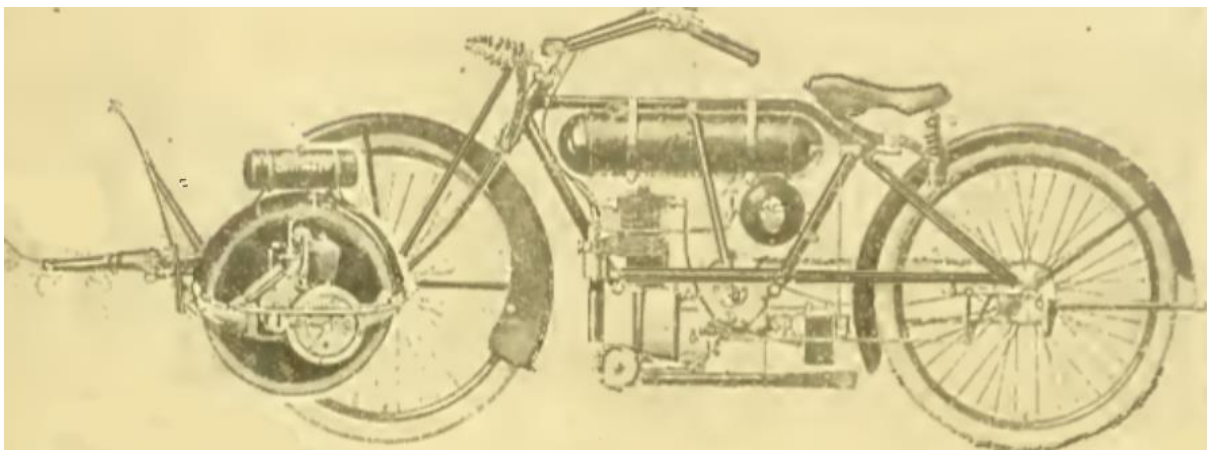
Left: The American Excelsior bore more than a passing resemblance to the baby Triumph. Right: The front-wheel drive Dayton was sold as “the world’s lowest-priced complete motor vehicle.”



Left: The 1hp 91cc Cyclomotor engine was designed to convert a standard bicycle into a 20mph motor cycle or as it would later be called, a moped. Right: The Tiger's 241cc Frederickson engine was rated at 4½hp with a claimed consumption of 140mpg.



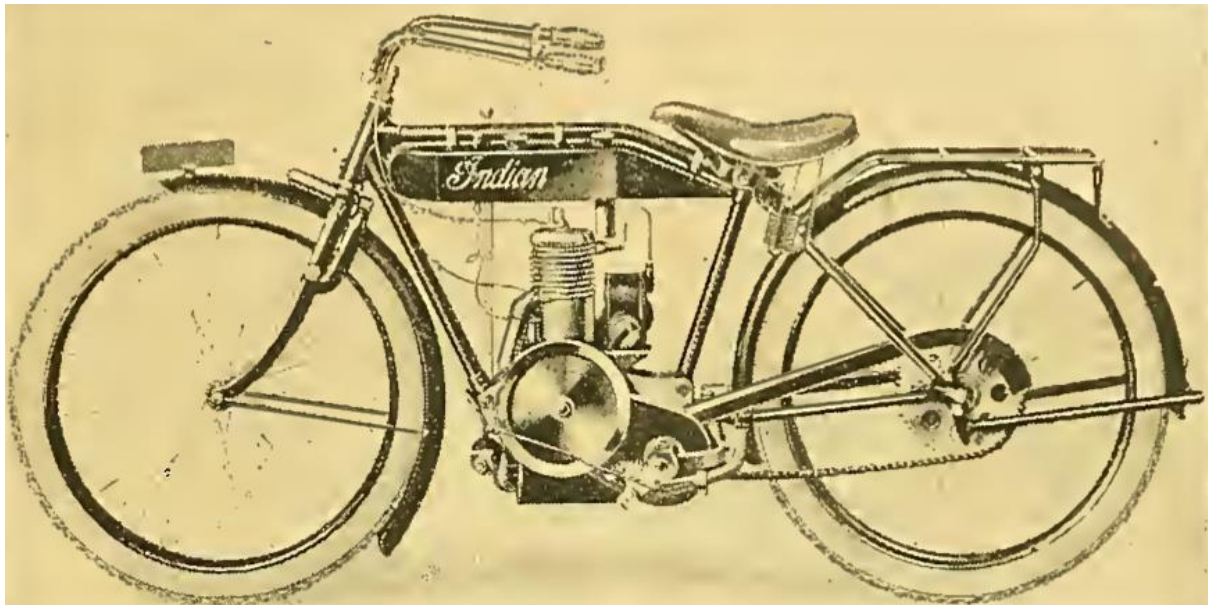
The 2½hp 220cc four-stroke engine in the Miami was mounted transversely.



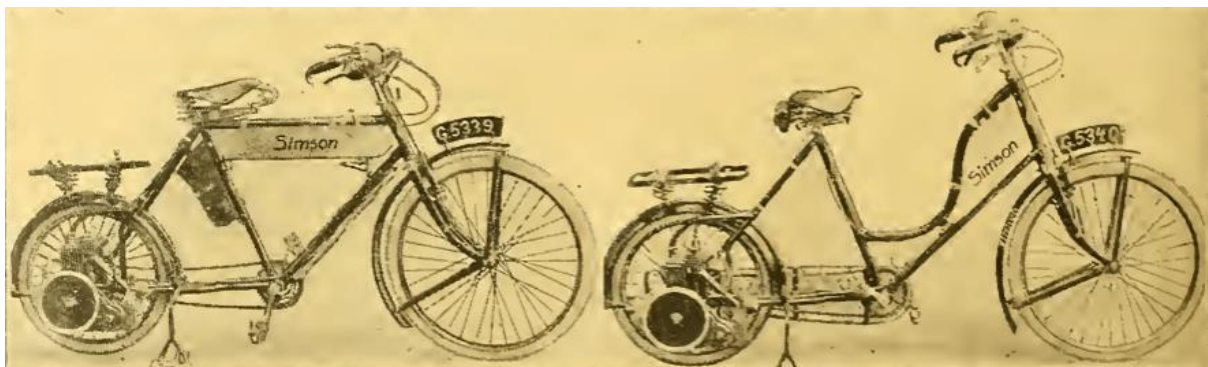
Left: Smith wheel attachment, adapted from the established Autowheel. Right: Unit construction two-stroke 220cc 3hp Cleveland.

“THE NEW LIGHTWEIGHT INDIAN: This machine is quite a new departure for the Hendee Manufacturing Co. It is by no means a baby, as the engine dimensions are 64x70mm (255cc), and it is rated at 2½hp...the sheltered position of the magneto, carried, as it is, on a neat platform forming a portion of the crank case casting, is a most excellent feature. This engine

should give plenty of power for its size, and render the machine capable of going anywhere. The petroil system of lubrication, which first saw the light in America, a country in which the two-stroke has received considerably more attention than it has in England, has been adopted...An excellently designed three-speed gear box, which is to be the new Indian pattern, is bolted to the bottom bracket. This contains a kick-starting device and three-plate clutch, the clutch being of the well-known Indian Raybestos and steel plate type...The clutch control is either by hand or foot...the front forks are the same as those found on the original Indian when it was first introduced into this country in 1909.



Indian leapt onto the American lightweight bandwagon with a well-specced 255cc two-stroke.

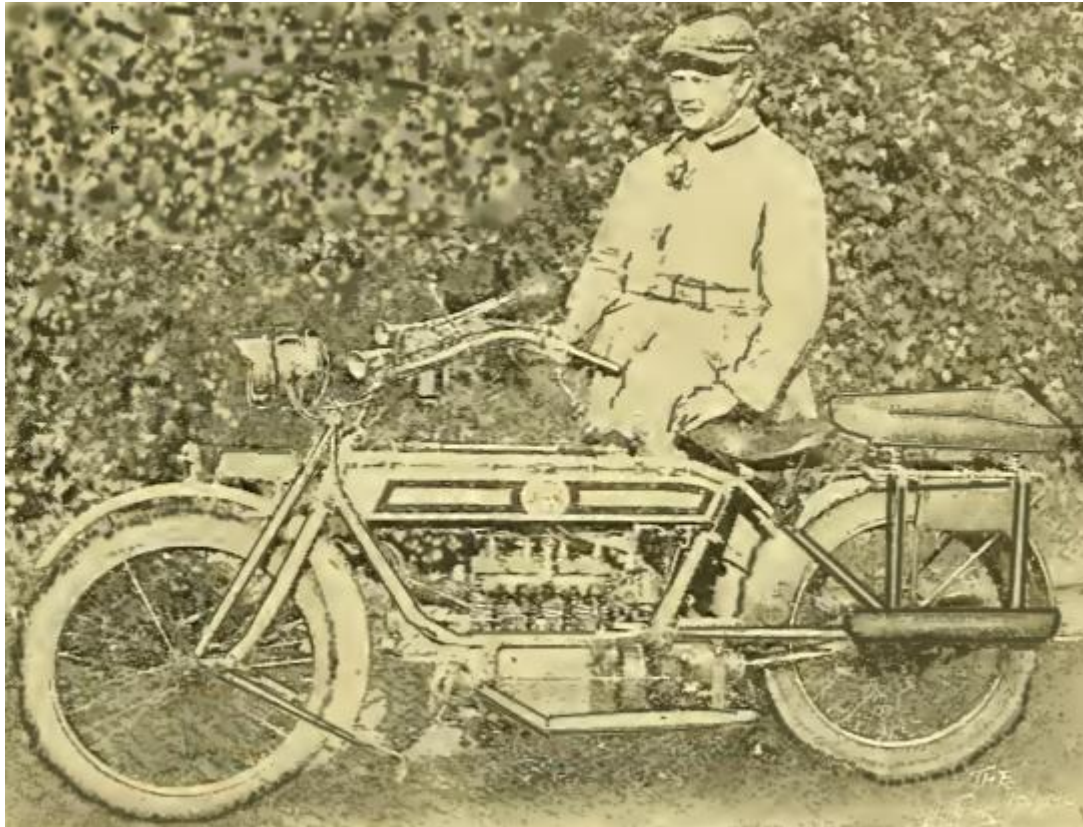


Rather than fitting Autowheels to the side of their pedal cycles, Dutch enthusiasts simply fitted Autowheels in place of their rear wheels.

“THE CASE OF THE RIDER of a 6hp Bat who had used unwittingly carbolic disinfectant for four months for lubricating his engine naturally caused a certain amount of amusement. The remarkable thing was that beyond poor running the engine received no damage.”

“WHILST A CONTINUOUS OUTCRY is raised in England against the carrying of passengers on the carriers of motor bicycles, it is interesting to note that a trial has recently been held in Holland for pillion seats, prizes being awarded to the best designs. There was a good entry list, and various types of carrier seats were represented, from the simple cushion to the canework seat complete with upholstery...The course was 70 miles in length, and had to be covered at a scheduled speed of just under 20mph...The first prize was awarded In tho FN ridden by MPBL

Maas. The pillion consisted of an upholstered seat with low back and side, supported on four spiral springs attached to a flat metal frame which was clipped to the cycle carrier by four clips, and carried the platform for the passenger's feet. The second place was gained by Mr Wyngaarder, whose pillion consisted of a round cushion with back rest, while a sprung footboard was provided for the passenger's feet. Provision for the passenger's feet was made in most of the designs, and was a point where they scored over those usually used in England. Some of the machines were English; some of the seats were also of British origin."



MPBL

Maas won the Dutch pillion competition on his FN.

"ONE REASON FOR THE comparative unpopularity of the 7-9hp twin in England as contrasted with the United States is that the American rider seldom takes the road in winter, whereas most of us ride throughout the year, so long as it is moderately dry overhead and not too cold. When the temperature is low and the roads are filthy only the daring owner cares for speed; and as these conditions rule four months of every year, and are not unknown during the remaining eight months, there are many, many days in a twelvemonth when the reserve capacities of a big twin are largely wasted."

"AS SHOWING THE INFLUENCE of motoring, the latest in baby perambulators have disc wheels. Everything must be speedy nowadays! It has been suggested that Autowheels might be attached to perambulators, and, with suitable controls for the occupants, nurses could be dispensed with!"

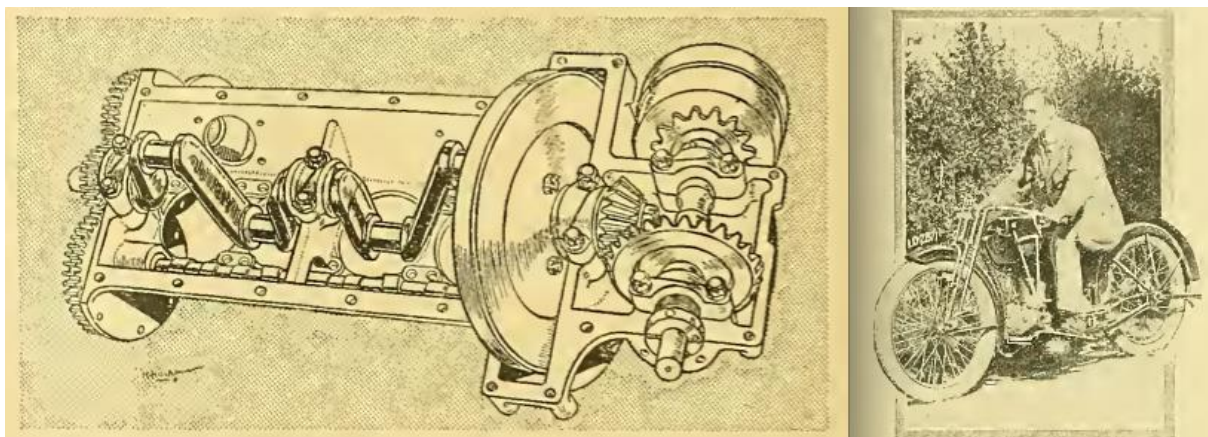


Sergeant-Major Palmer was among *Motor Cycle* staffers to join the Colours.

“HB ELLIOTT, OF THE business staff of *The Motor Cycle*, has been granted a commission in the Motor Machine Gun Service. He is the fifth member of *The Motor Cycle* staff to answer his country's call. The number of employees of Messrs Illiffe and Sonds Ltd, proprietors of *The Motor Cycle* and allied papers, who have joined the Colours now amounts to 128...Battery Sergt-Major Palmer, of the Motor Machine Gun Service, who, after serving for several months in France with the No5 Battery, is now back at the training centre as an instructor. Sergt-Major Palmer had formerly seen service overseas in the Royal Navy, and was assistant cashier to *The Motor Cycle* prior to joining the MMGS.”

“IN COMMON WITH OTHER members of the staff I have been sampling the paces of the four-cylinder Henderson, which has provided me with quite a new sensation,” Ixion reported. “True, I had ridden many miles on a four-cylinder FN, but it was disfigured at that date by automatic inlet valves, and by a transmission (the shaft drive) which impressed one overmuch with its rigidity whenever the four little valves chose to function irregularly. By contrast, the Henderson

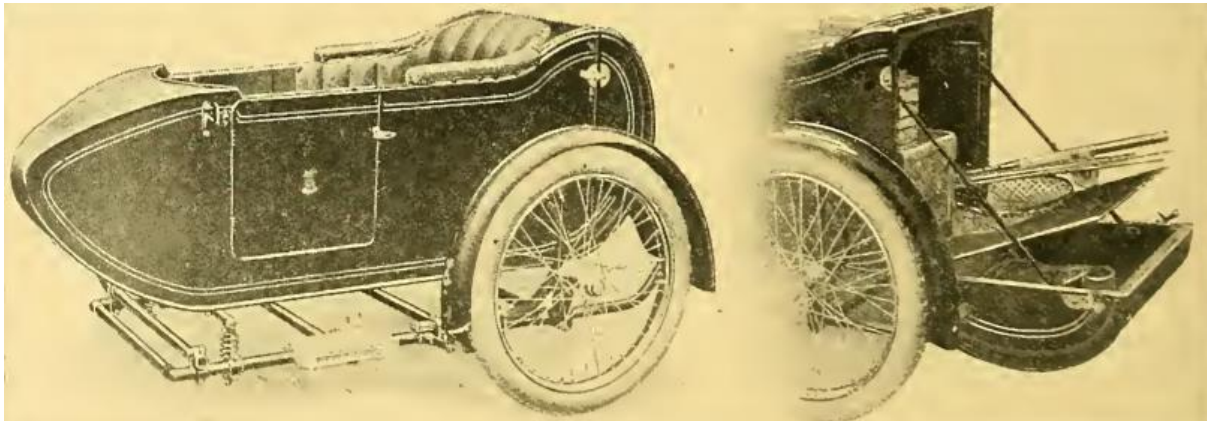
has mechanical inlets and a chain drive, with a fine clutch interposed between itself and the engine. In brief, I can only compare the experience with that of handling a leviathan Grand Prix racing car, for the powerful engine never asks for its emergency gear, and accelerates from an inaudible crawl to a thunderous roar in response to the movements of the single carburetter lever. Also, it can behave like a docile baby two-stroke in thick traffic, for it can be throttled down to seven or eight miles an hour on top gear, and to three or four miles an hour on bottom, and will accept its clutch on either gear without further throttle opening, so sweet is the pick-up of its clutch...The acceleration is absolutely terrific—there is no other word for it; and the gamut of the engine is surprising, for whether you elect to drive at 10, 20, 30, 40, or 50mph, the engine responds cheerfully...I believe that the four-cylinder engine will have a big future on two-wheelers. A few weeks later one of Ixion's fellow staffers had his say: "Years ago in the dim and dark ages of motor cycle history, when change-speed gears were non-existent and 3½hp's were considered too powerful to be safe, the Editor of The Autocar, at an Auto Cycle Club (now the Auto Cycle Union) annual dinner, ventured to prophesy that the four-cylinder motor bicycle would have a great future...in the Henderson we have actually on the market—a four-cylinder motor cycle which is one of the most perfect two-wheelers we have ever had the good fortune to drive...The chief departure from standard was the fitting of wide handle-bars provided with Pedley rubber grips, which, by the way, are most comfortable, while ordinary British Bowden handle-bar control was supplied to actuate the magneto advance and the Schebler carburetter. This to one who had never before driven the machine was a veritable godsend, although those who are accustomed to it prefer the American style twist handle control to any other, but experience is necessary before this method can really be appreciated...The four-cylinder engine, air-cooled and with



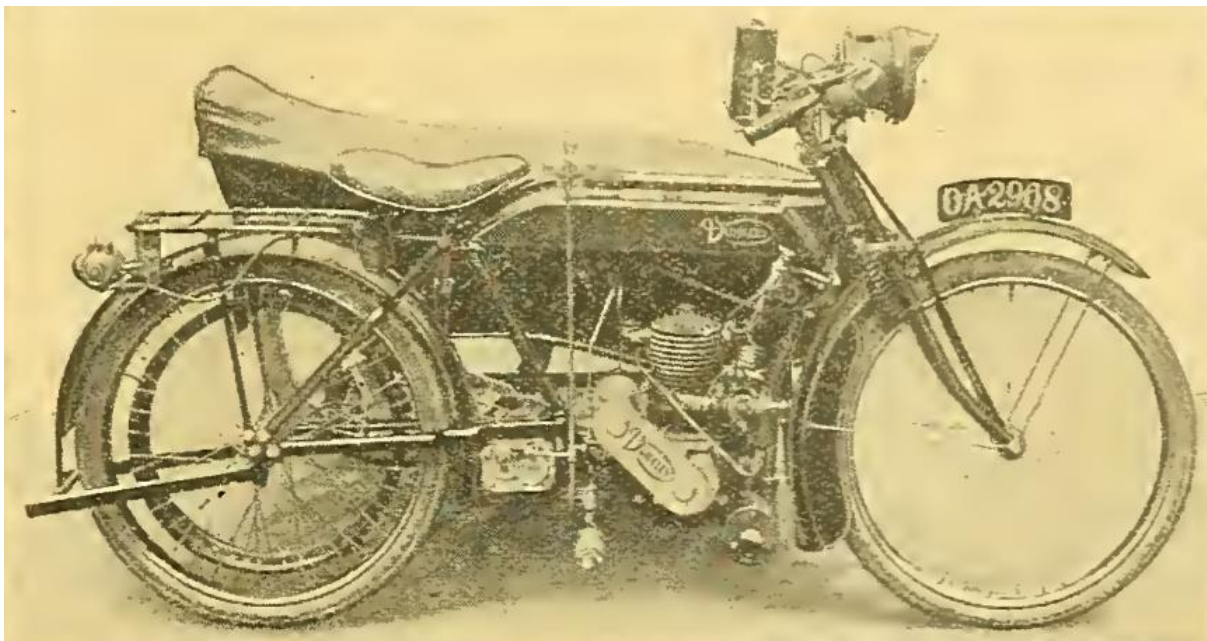
"Crank case, three-bearing crankshaft, flywheel and transmission gear of the Henderson. The four-cylinder Henderson on the road."

passages between the valve chambers and the cylinder to aid cooling, with its overhead valves, follows car practice pretty closely. Its design comprises commendable originality, and is yet totally devoid of freakishness...the engine is set in motion by a handle, which is pulled up, and after starting, which is quite easily effected even from cold, folds neatly away. We rapidly gained confidence and in a few yards we were revelling in the glorious smooth running, extreme controllability and superb acceleration of the engine...within limits, the faster we travelled the greater was the comfort we experienced...Our drive was in the country south of London. Here we had plenty of hills to try, the first of which was the one which leads from the main Eastbourne road to Upper Warlingham. To say that the Henderson treated this as level ground appears to be but making use of a somewhat hackneyed expression, but its behaviour can be

described in no other way. The hill, which is quite a good pull and will bring a good four-speed car down to second, was absolutely ignored. Titsey Hill, despite an obstruction on the steepest portion, was equally well climbed, while on Westerham, which we took in the evening, the machine was simply a revelation...Such sensations of power cannot be enjoyed on any other vehicle than a powerful car, and yet the Henderson is as docile as a lamb in thick traffic or on greasy roads. It is heavy, it is true, but it is 25lb lighter than several American twins. It is also economical in petrol (70 to 80mpg we are assured). Tariff or no tariff, the Henderson will sell among that section who like luxurious riding and ignore weight, as it is in its class quite without rival on the British market."



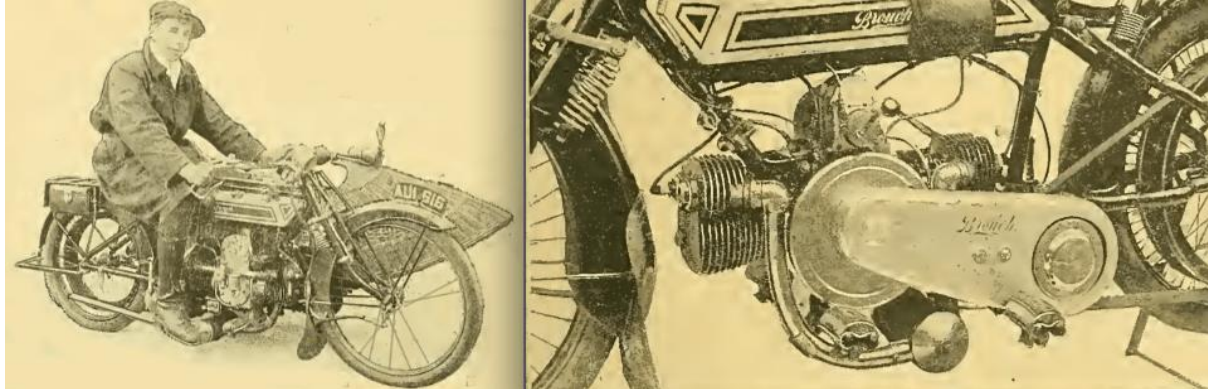
"The makers of the Norton motor cycles have been supplying their own sidecars with their passenger outfits for some time past. They have now gone a step further, and will supply two of their sidecar models by themselves and ready to fit any make oi motor cycle."



Dunkley came up with a lightweight combo powered by a 349cc Peco two-speed two-stroke.

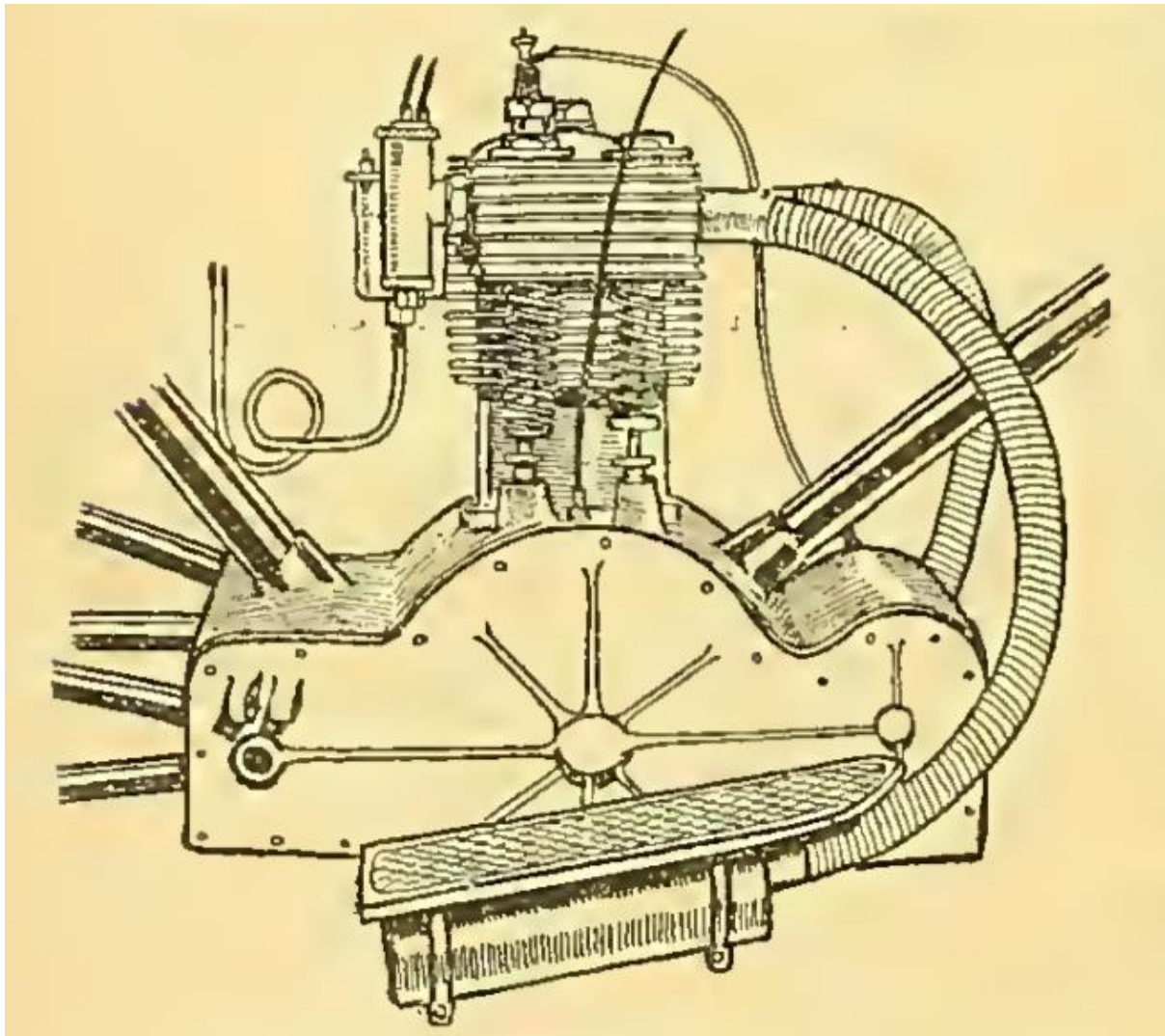
BROUGH'S 3½HP OHV FLAT TWIN was joined by launched a 692cc 6hp sidevalve with a three-speed Sturmey-Archer countershaft gearbox: "This new engine, though designed as a double purpose mount, is primarily intended to appeal to that section desiring a motor bicycle for passenger work which shall be of moderate weight, and consequently not too cumbrous for occasional solo work. Silence and flexibility are its chief characteristics...What impressed us more than anything else during our road test was the absence of effort so noticeable about this

wonderfully smooth running, engine. We sped along at all speeds with the same comfort and smoothness that one would associate with a high-class car, whilst the handle-bars are noticeably free from vibration, no matter whether it was 20 or 40mph at which we travelled...Acceleration! Well, anyone who knows what a well-tuned engine can do in the hands of George Brough will get some idea of this characteristic..."



George Brough aboard his dad's latest creation, a 692cc side-valve flat twin.

DECADES BEFORE UNIT CONSTRUCTION became ubiquitous a monobloc engine was used on British roads: "The down tube and seat pillar are brazed to lugs cast as part of the crank case; the latter has two extensions, one at the front housing the magneto, and one at the rear containing the gear. Thus the crank case serves three purposes, as its forward compartment conceals and protects the magneto entirely, while the gear box is in the one unit. To make the interior mechanism accessible for adjustment or repair, two large aluminium plates are bolted to either side of the crank case, and by undoing the securing screws, the whole of the engine and gear box mechanism is exposed...As at present constructed the machine is heavy, but a few alterations should bring it into competition with the more normal design, and the result might be a machine very much more easy to clean—a good point to aim at, and one that would be appreciated by all riders."



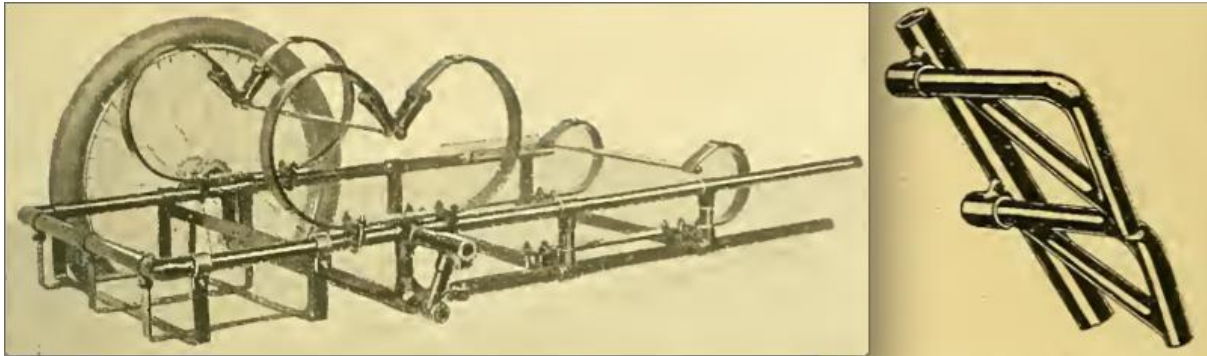
“Novel system of design for a power unit. The clutch, gears, and magneto are enclosed in extensions of the crank case. Note also twin exhaust pipes and silencers.”

“ONE OF THE STURDIEST BUILT high-powered machines which we have yet inspected is the new 1916 model 8hp four-speed Champion-Jap. This mount is obviously intended as a go-anywhere passenger outfit, but, nevertheless, it is not an impossible solo mount, for we have ridden a machine of exactly similar type, but with combined belt and chain drive, as a solo mount, and its flexibility, was remarkable.” The big twin was finished, with questionable taste, in Khaki but its equipment was certainly up to the minute: a “new pattern” Jardine four-speed box, fully enclosed, all-chain transmission, “internal expanding” (drum) rear brake, “the latest Druid spring fork, with auxiliary damping springs above the fork crown”, large ally footplates turned up at the front with heel rests and a QD carrier/rear mudguard section to facilitate wheel removal. “The reserve power provided by such a big twin is most attractive. The slightest touch of the throttle lever and the machine bounds away like a thoroughbred, whilst as to hills one never notices them, as with the four gears, even with the high top ratio that is provided, one can toy with single-figure gradients. The Coventry neighbourhood does not abound in steep hills, Stoneleigh being the only gradient of note in the district, so we wended our way thither, and, despite the fact that one cannot rush at this hill, owing to a right angle bend almost at the foot, it was possible to effect most of the climb on the top gear.” At the insistence of a Champion sales rep the man from *The Motor Cycle* started from a standstil on the steepest section of Stoneleigh

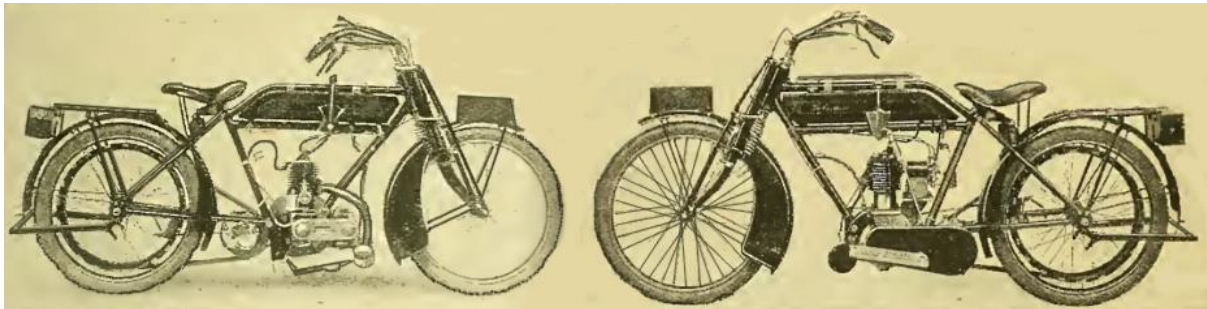
in third: "Even this latter performance we carried out with comparative ease, the demonstration providing a most agreeable proof of the efficiency combined with ease of handling of the cork clutch. There was no snatch or jerk, and no tendency to seize instead, it took up the load gently but surely, gradually increasing its speed...Certainly, we have never handled a clutch, whether on a car or a motor cycle, with which such liberties could be taken, and at the end of the trip the clutch took up the drive as sweetly as ever."



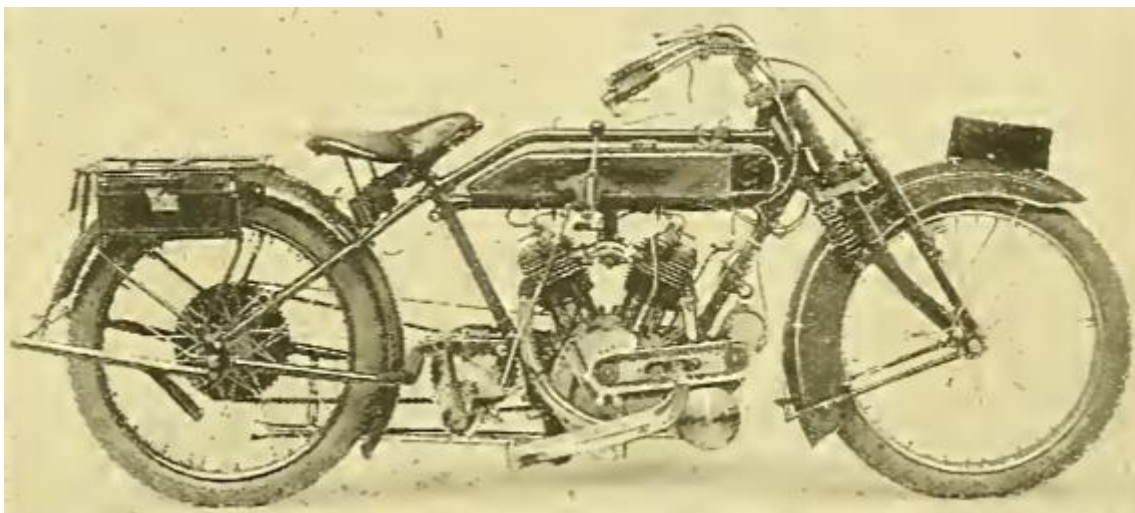
George Hunt on the new tour-speed 8hp Champion. Mr Hunt, it may be mentioned, is the holder of the 24 hours cycle paced record, having covered over 400 miles in 24 hours.



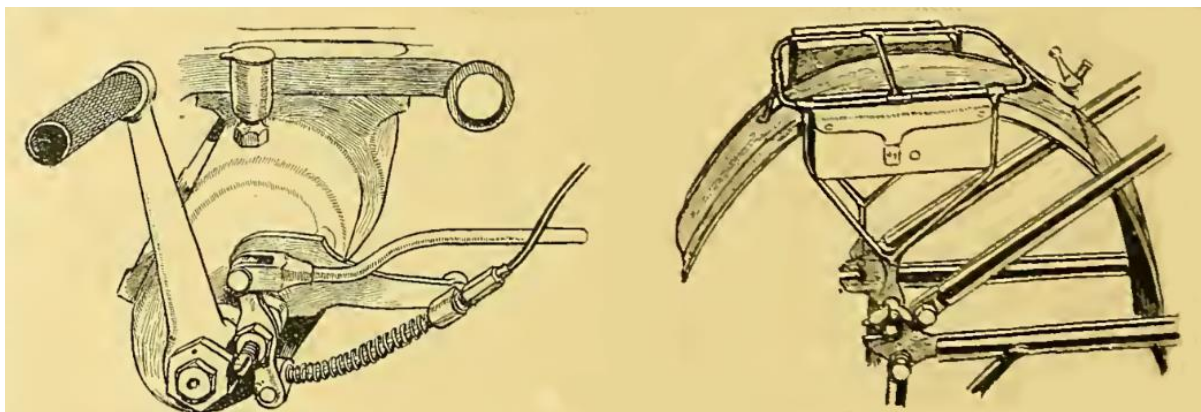
“Not only does the Champion sidecar have four-point attachment, which is now generally demanded by experienced riders, but the two bent tubes in front, which are necessarily used, are stiffened by two struts forming a triangle (right). Still the springing of the sidecar is the most attractive point of the Champion, for double ‘C’ springs are used, together with long links, reminiscent of the springing of carriages in the early Victorian era, which give a movement and a degree of comfort comparable only to expensive cars. A luggage grid at the rear of the frame is a standard fitting.”



Champion’s 1916 range included a brace of lightweights, powered by a 269cc two-stroke Villiers with a two-speed Albion box and a 292cc four-stroke JAP with a two-speed Jardine box. Both had chain/belt transmission and black enamel.



At 8hp the Champion-JAP twin was rated as a high-powered sidecar hauler. As a solo (pictured here sans chain cases) it was a flyer.

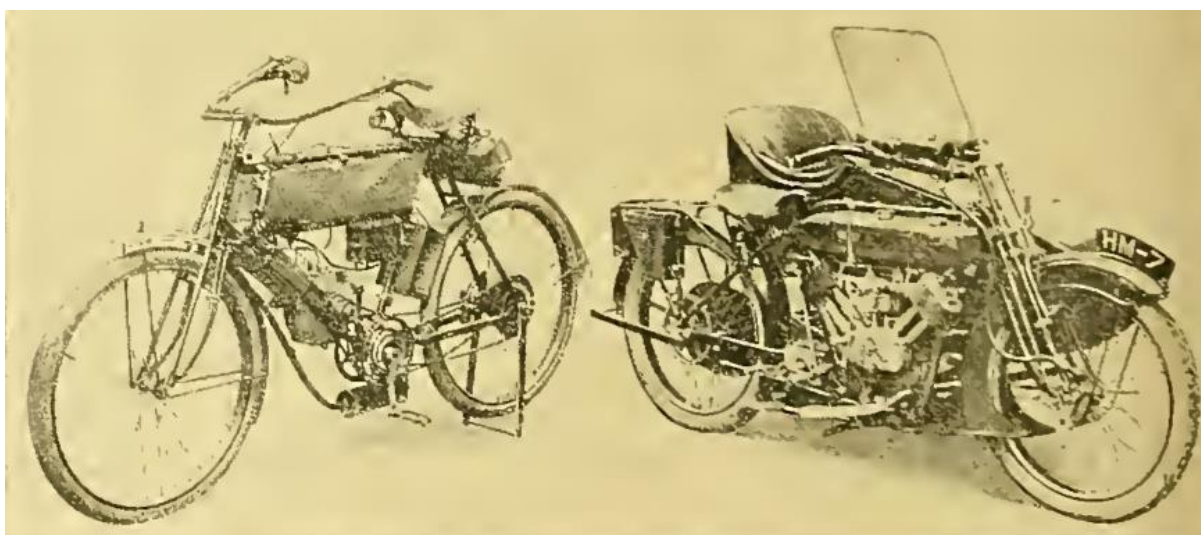


Left: "Interconnected hand and foot control for clutch on latest Jardine gear fitted to the new Champion." Right: "Detachable guard and earner on the Champion to facilitate tyre repairs."

"THERE ARE TWO V TYPE twin-cylinder two-stroke engines on test in the Midlands, but neither has yet passed the experimental stage, so each designer reports. Newcomers to the pastime do not appear to know that the Rex Co six or seven years ago produced a V type twin two-stroke engine."

"A LETTER HAS BEEN BROUGHT to our notice, the heading of which denotes that the writer not only sells motor cycles, but lends money with which to run them. Presumably the idea is to sell a motor cycle to a man, cause him to spend more money than he ought to, and consequently return with the object of borrowing more money with which to run it. The idea strikes us as being distinctly novel. Caveat emptor!"

"MOSKOVSKOYE OBSHESTVO MOTORISTOFF: The Moscow Motor Cyclists Club has lately been reformed and its sphere extended, and its title is now as above. The MOM will be the recognised headquarters of the sport throughout Russia. It will organise competitions, trials, lectures, etc and open repair shops and depots. Correspondence is invited from kindred associations in England."



"Fifteen years of progress: A 1900 1¾hp P&M motor bicycle which is in excellent order, and up till quite recently in use, and the very latest twin-cylinder four-speed P&M sidecar."

"WE HAVE RECEIVED A LETTER from the secretary of the Roads Improvement Association in which he points out that, in spite of the Government's action in curtailing the activities of the

Road Board, there need be but little deterioration in the road surfaces if the local authorities will face the problem of judicious and skilful patching with proper material on the 'stitch in time' principle."

"OUR CAMPAIGN IN FAVOUR of spring frames has produced such remarkable results that other journals who remained silent while *The Motor Cycle* performed the spade work are having to follow on."

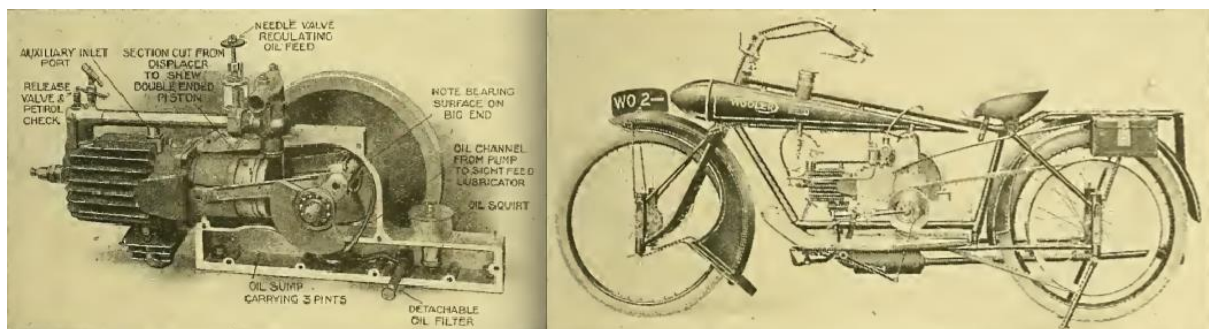
"JOHN ARTHUR CECIL SCOTT, described as an engineer of Hampstead, had ridden his motor bicycle without lights along Rosslyn Hill after dark at a speed of 20mph, and a mounted constable had galloped after him for a distance of 600 yards before he overtook him. He gave his name as Lieut Scott of the Royal Navy and refused to give further particulars, and then, lighting up, went off at a fast pace. The police at Hampstead said that Scott had no right to wear the Naval uniform, and had already been dealt with at Marylebone for this offence. On the present summons he was fined £5 or one month's imprisonment."



"Part of a batch of prospective despatch riders passed by the Editor of *The Motor Cycle* on the 23rd ult for the Royal Engineers Signal Service. They were tested on their own machines in the Coventry Barracks yard."

THE FRENCH GOVERNMENT ordered a batch of Wolf motor cycles from Wolfruna of Wolverhampton; the Egyptians opted for ABCs.

WOOLER UPGRADED ITS ENGINE with a tubular gauze oil filter and a chamber in the transfer pipe designed to "assist thye missing of the charge [and] reduce the pressure behind the automatic inlet valve...It may be remembered that the Wooler has a double-ended piston working in a double-ended cylinder, and the illustration shows how the gudgeon pin and forked connecting rods are designed to work though slots which are always covered by the piston, so that no compression can, escape either from the cylinder or the displacer."



"Sectional views of engine of the 1916 two-stroke Wooler—a most original design. (Right): Belt side of the latest Wooler, the engine of which is a two-stroke placed horizontally."

“CONSIDERABLE PROMINENCE HAS BEEN given recently, in the motor cycle press, to the subject of motor cyclists of the fair sex and the machines they ride. It must be obvious from some of the photographs published that there exists some difficulty in obtaining, or disinclination to use, machines which are especially constructed for ladies’ use. Presuming this to be correct, I think all who have an interest in the sport and pastime must view this state of affairs with some alarm. I plead ‘not guilty’ to being a prude, but do consider a woman loses her self-respect and the respect of all right-thinking people by some of the exhibitions which of recent years, and more especially recent months, have been thrust before the gaze of the public. I daresay no one of the male sex, has taken more interest in motor cycling for ladies than I have, and some of my happiest hours, during many years’ experience of the pastime, have been spent with clubs which encouraged lady riders who rode ladies’ machines.

THE DREADNOUGHT, BEF.”

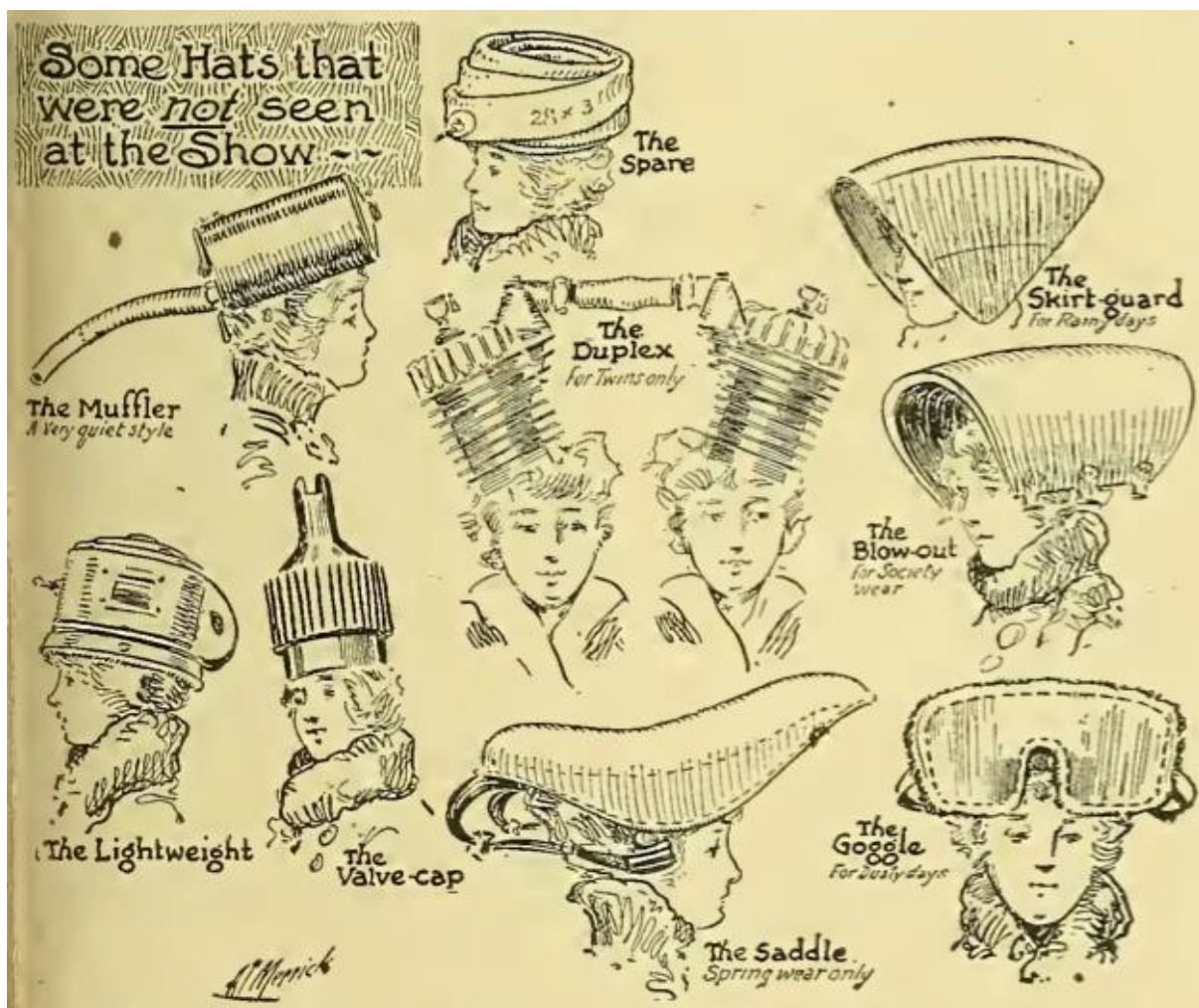
OF LATE WE HAVE SEEN some frightful illustrations of ladies in the press (thanks not in *The Motor Cycle*), some of them wearing riding breeches, other times they hold themselves up to the public ridicule wearing a suit of gentlemen’s overalls, whilst one lady was actually standing on a gentleman’s machine performing acrobatic tricks with her feet in the air—almost standing on her head—and to have this sort of thing thrust before the public gaze is most degrading and certainly does injury to the pastime. If a lady is to lose her self-respect in this way she should not make a public exhibition of herself, and if she cannot do the pastime any good, well, she should not do it any harm, for it is just this sort of thing that causes many who hitherto were contemplating joining our ranks to give up the idea in horror and disgust...I appeal to the press to reject any photographs in future of ‘the lamb in wolf’s clothing’, and once this nonsense has died a natural death, aided by public ridicule, then the pastime will be largely taken up, and our friends will look forward to an outing with us just as in the days of the push cycle...I have always advocated an open frame, so that I could sit my steed with gracefulness and always look womanish.

MARY REID”



IT IS MOST INTERESTING to watch the development of the motor cycling habit in the beginner. The way in which the sport captures the enthusiasms of everyone who tries a venture is surprising to those people who have yet to try their hand on the driving and management of a motor cycle of their own. Passing my window several times each week, probably on her way to town, is a rider who has recently acquired a new lady’s Douglas. Some three years ago this same rider piloted an old tricar, with no passenger, up and down the same highway. Her experiences with this machine of uncertain date must sometimes have been the reverse of pleasant. How often had I seen her pedalling vigorously to assist an engine which spluttered and misfired as it faced the rising road. One day, however, the old tricar was ‘no more’, and the

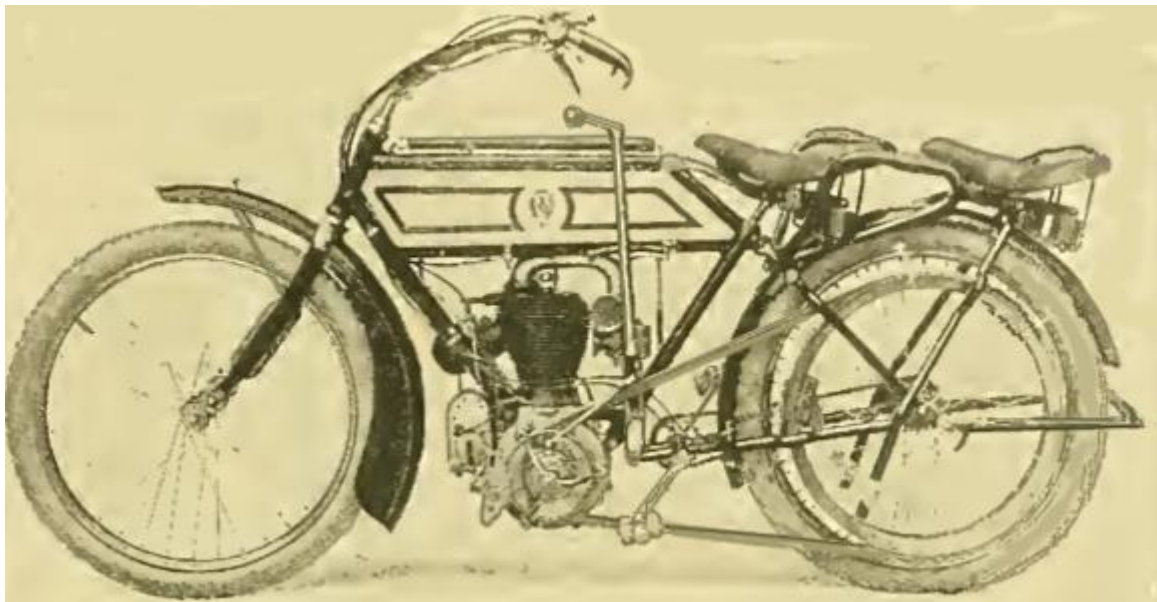
rider was astride a small-powered solo machine, about a 2hp, that the Singer Co placed upon the market some four or five years ago. This, doubtless, was a great improvement, but now, in turn, this has been discarded for the new Douglas. This rider's experiences would make interesting reading. I imagine few wayside repairs can be unfamiliar to her, but the joy of a well-designed new mount must be intensified by the memories of the vicissitudes met by venturing abroad on an ancient crock. I can speak, perhaps, feelingly on this score. Well I remember my own first mount, an old open-framed Phoenix-Minerva, for which I—like many another novice—paid a great deal more than its value. Fitted with accumulator and coil and other devices now obsolete, it generally carried me beyond the ken of motor repair shops and then refused to budge. How many times during my first summer's riding did I leave the refractory object in the care of a friendly cottager and trudge home! No sooner did I master one of its failings than another cropped up. It is many years since a discerning poet said, 'There are tears in the affairs of this life'. Maybe he was the owner of some contrivance whereby he was carried a distance from his 'ain fireside' and then 'let down'."



"A set of clever and amusing sketches that appeared In the New York Show number of our contemporary, *Motor Cycle Illustrated*."

"AN INTERESTING ITALIAN MACHINE Reminiscent of Several British Makes: We have on more than one occasion commented favourably on the clean lines and attractive appearance of the motor cycles lately produced in Italy, and noted a growing resemblance to British motor cycle design. The Borgo machine is no exception...The engine, which strongly resembles the Rudge,

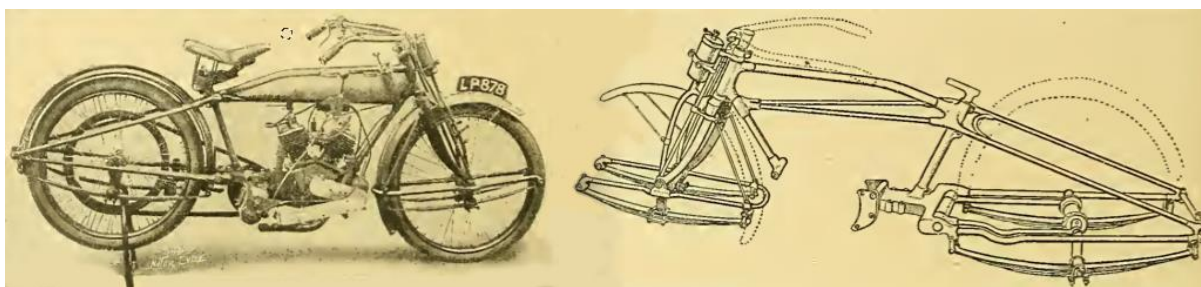
has a bore and stroke of 85x88mm (499cc), the popular British size; the inlet valve is overhead, and, of course, mechanically operated; the Bosch magneto is carried in front on a platform cast with the crank case, is handle-bar controlled, and provided with a cut-out. The variable gear consists of an expanding pulley such as is fitted to several British machines, and a method of maintaining correct belt tension by moving the rear wheel in the manner of the Zenith. However, in this case, not the rear wheel only, but the whole of the rear part of the frame moves backwards and forwards. This rear portion is pivoted below the saddle, and the front ends of the chain stays are carried by the extremities of a long lever, which extends upwards on the left side of the tank and has its fulcrum on the engine bracket. When this lever is pushed forward it forces the wheel backwards and tightens the belt, at the same time opening the pulley. The pulley can be further controlled by rotating the lever; thus, a free engine and clutch can be brought into use at the requirements of the rider...The cantilever arrangement upon which the saddle is mounted is reminiscent of the Rex. A second seat, together with hand grips and footrests, is mounted in the rear. This method of carrying a passenger is very popular in Italy, being much cheaper than a sidecar and more comfortable than the padded pillion-seat..."



The

Borgo was clearly influenced by British designs but came with a pillion seat.

AUSSIE NUMBER EIGHT HAT Saville Whiting designed and built a rolling chassis with leafsprings at both ends. He inserted a Douglas engine and took it to the UK to try and get it into production, arriving just as the country was plunged into war. Nevertheless it was well received so he built another, this time with a 5hp JAP twin and four-speed Jardine gearbox. The front suspension incorporated a dashpot arrangement, consisting of a phosphor-bronze piston working in a brass cylinder, which has a compression tap screwed into its top so that oil may be introduced from time to time. This device acts as an excellent shock absorber. *The Motor Cycle* reported: "The whole frame is ingenious, affords an excellent system of springing, and is not unsightly. The frame also lends itself readily to the attachment of a sidecar...all road shocks were most efficiently absorbed, though when going over one very bad hole the front fork bumped to its limit, owing to either the springs being a trifle light for our weight, or to the dash-pot not doing its duty. If the latter were the case, the matter can be easily remedied...Altogether we were most satisfied with the Whiting spring frame, which certainly appears to fulfill the claims made for it by its inventor."



The Whiting frame was well received but it could not have arrived at a worse time.

“WE WONDER IF THE rumour is true that the War Office recently ordered a large consignment of spare valves for two-stroke Scott motor bicycles.”

“OWING TO THE FACT that practically every member of the Coventry and Warwickshire MC is either on military service or munition work, the committee has decided to suspend the club temporarily.”

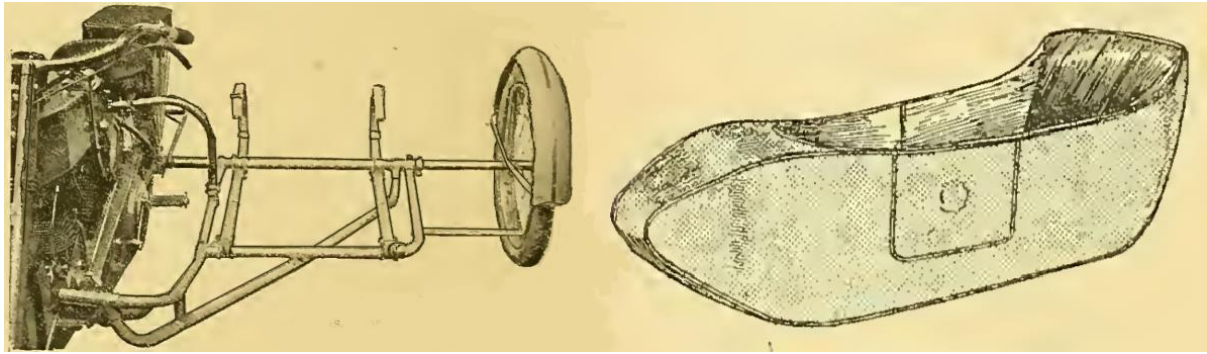
“WE HAVE RECEIVED AN APPEAL from a medical officer for 120 two-gallon petrol cans, to enable the men of his unit in the trenches to be supplied with drinking water. Empty tins should be sent by parcel post addressed to the Medical Officer, 2nd Black Watch, Bareilly Brigade, Meerut Division, Indian Expeditionary Force, A.”



“At a Western Australian race meeting: The Goldfields MC at certain times of the year use the dry bed of a lake near Kalgoorlie for racing purposes. It provides an excellent surface, and the photograph was taken on the lake bed. The riders shown, H Myers (BSA) and AV Norton (Sunbeam), are successful WA competition men.”

“A FATAL MOTOR CYCLE ACCIDENT occurred at Leek Wootton, between Kenilworth and Warwick one evening last week which was directly due to a dog. A sidecar outfit was passing through the village in question when a dog rushed across the road, colliding with the outfit with such force as to overturn it. The lady passenger suffered a fractured skull.”

“OF THE MOTOR CYCLISTS who are enrolled as special constables, under the aegis of the Automobile Association, a squad of 15 are on duty each night at Fanum House. The Wednesday night squad is in charge of Sergt FA Hardy (of the Motor Cycling Club), and so popular has he become with his men that they have presented him with a silver cigarette case.”

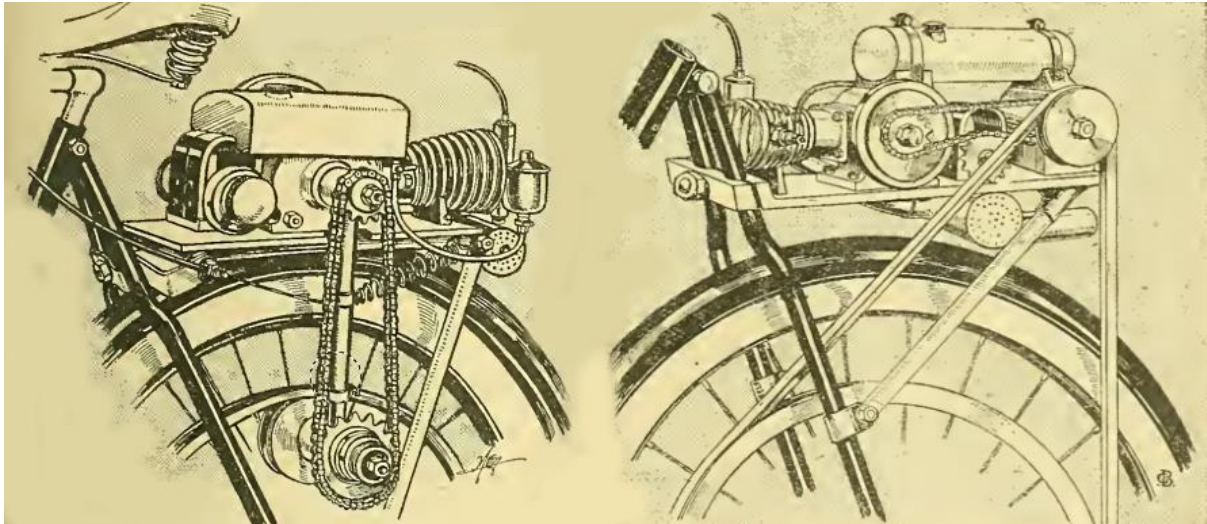


Harley Davidson produced a sidecar with a telescopic axle, allowing the track to be adjusted from 44-56in. Rigidity was ensured by a diagonal running from the rear member to the forward fitting; all four fittings were fitted with compensating ball joints. Right: Watsonian's Aero model was designed for 3½hp models so, despite being "comfortable, almost luxurious, to ride in, and well fitted out for the comfort and convenience of the occupant", weighed just 29lb.

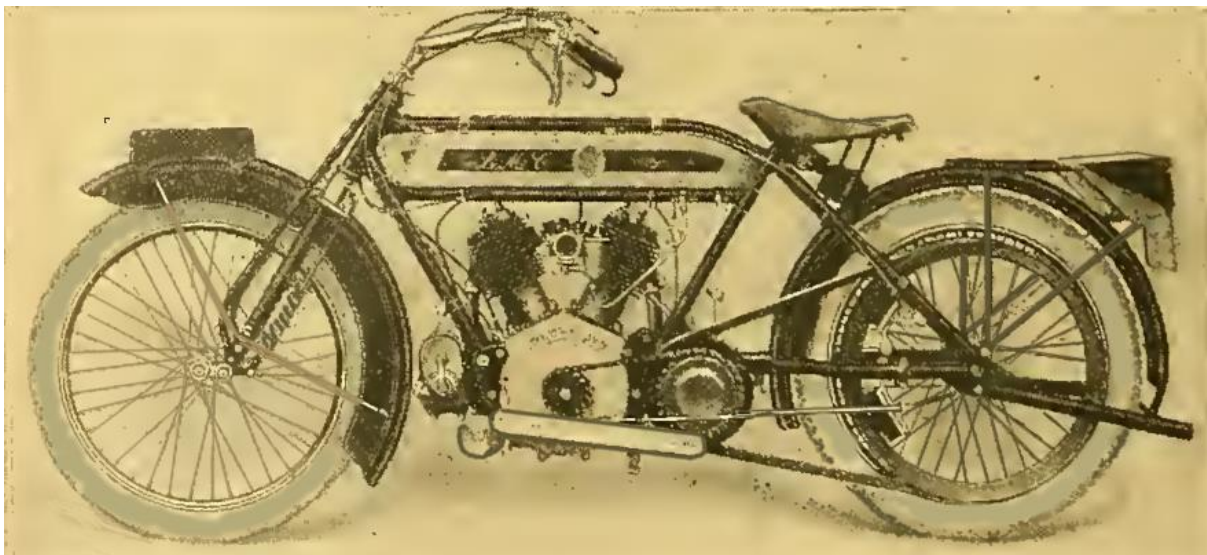
"WE HAVE ON MORE THAN one occasion illustrated trick riding 'stunts' on motor cycles, so that the accompanying pictures will not come altogether as a surprise. They show GA Roberts, a young Leeds motor cyclist, who appears to be able to do anything he likes with his mount, which, by the way, is not a modern one. Whether motor cyclists do things of this sort merely for amusement or as a preliminary training to despatch riding, we are not in a position definitely to say. No doubt they assist in making a man part and parcel of his machine, so to speak, and so able to act quickly in emergencies, though if trick riding were a necessary preliminary to fit one for a motor cycle under all conditions, the circulation of *The Motor Cycle* would not be what it is. At any rate, the pictures go to prove that rational riding cannot be so difficult anyway. We should not advise readers to attempt to emulate the tricks illustrated unless it is done on a borrowed machine and on a deserted stretch of road."



"Left: Standing on the sidecar chassis with wheel off ground. Centre: Standing on the saddle and steering with string. Right: Steering with the feet."



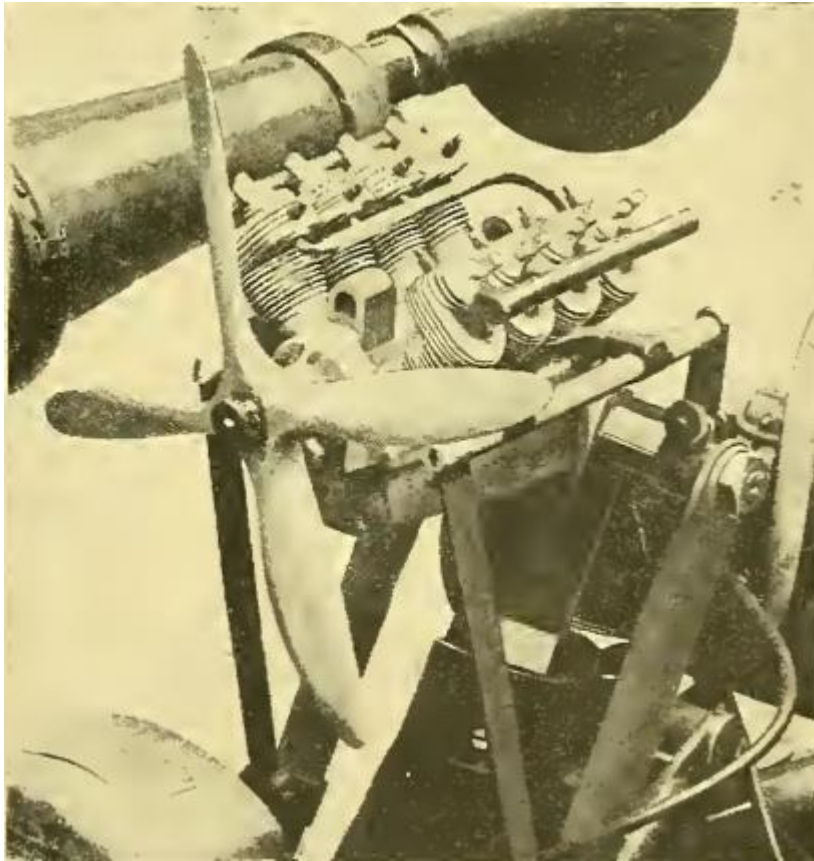
Following the success of the Autowheel two designs of 'carrier motors' offered alternative ways to power a standard bicycle. The London and Westminster Industrial Syndicate transmitted power from a 117cc four-stroke engine via a chain to a fibre pulley bearing on a belt rim spoked to the bicycle wheel. The Oxygen Welding Works of Birmingham used a similar layout, but in this case a chain transmitted power to a gearbox and then via a V belt to the belt rim.



The well established LMC 3½hp, 499cc single was joined by a 6hp, 842cc twin (shown here without its primary chaincase). Unusually, both breaks acted on the belt rim.



"Edmund Maillard (3½hp Triumph) recovered from a high-speed tumble to win a hillclimb staged by the Valparaiso MC in Chile. He beat off competition from a number of 7hp twins. British bikes took three first and two second places."

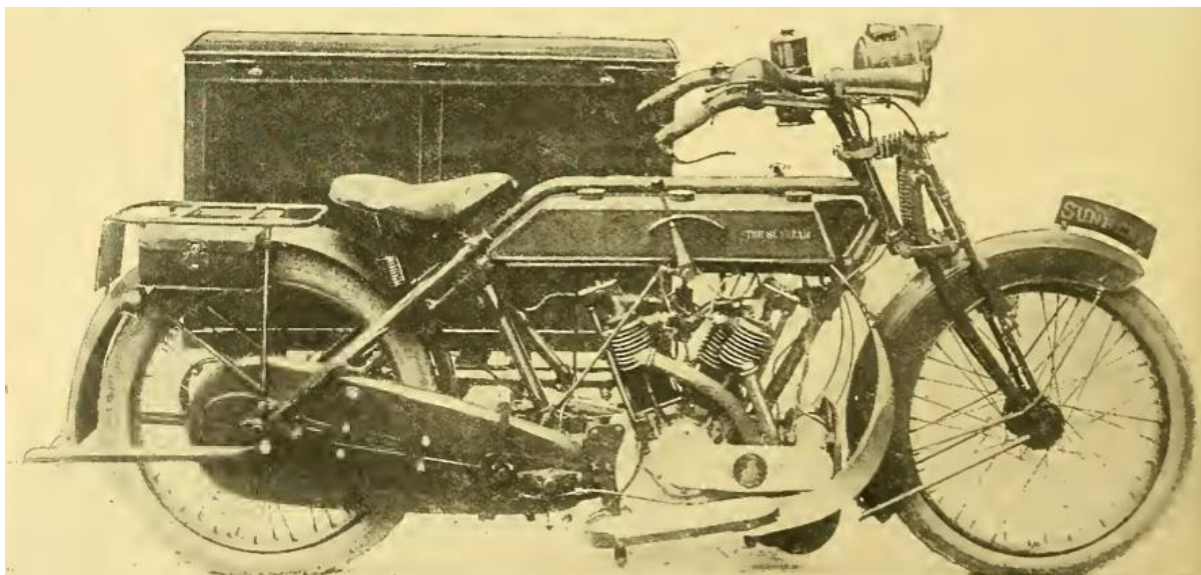


“A clever and appropriate mascot: An exact scale model of a 75hp eight-cylinder Renault airplane engine fitted to the front fork of a motor cycle owned by an Admiralty inspector.”

“MAY I DRAW YOUR ATTENTION to the menace to night riding caused by the use of red lamps for indicating street repairs? When riding I have had several narrow escapes by mistaking these lights for the rear lights of cycles. If lights of another colour, say purple or green, could be instituted universally to indicate street repairs, I think this danger would be obviated.

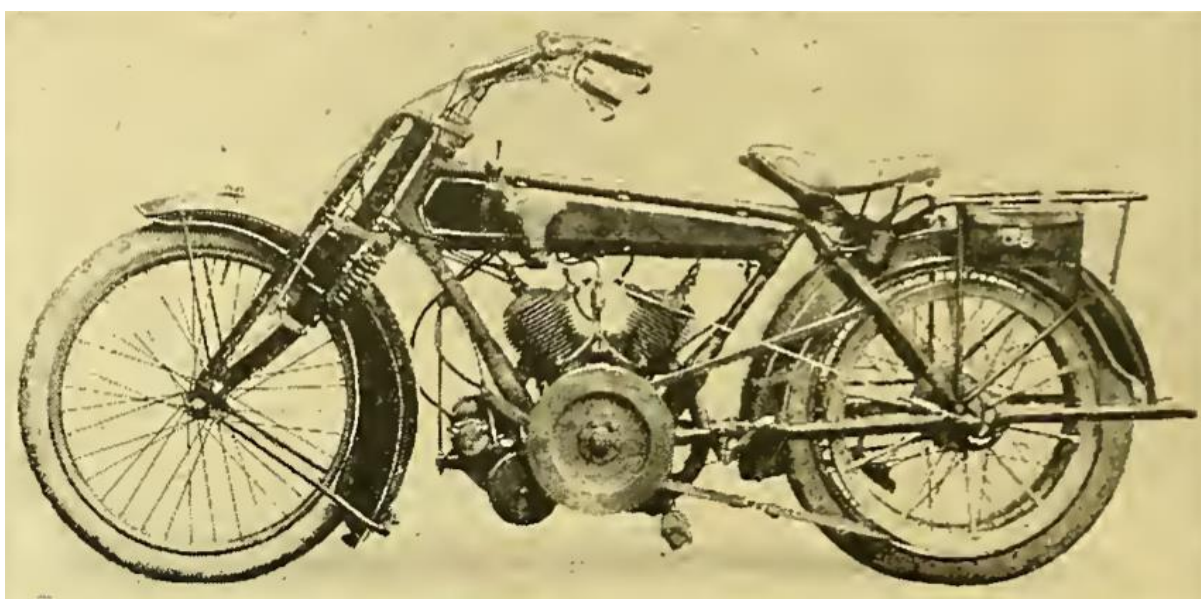
W IVEY”

“CLYNO MOTOR CYCLES ARE USED in increasingly large numbers by the War Office, their main sphere of action being in the Motor Machine Gun Section. In this and other work we have good reason to know that the Clyno is giving remarkably good results...there is practically no prospect of them catering for the general public for a considerable time, unless the war ends sooner than at present appears probable...motor traction, from the despatch rider's motor cycle to the big internal combustion engined tractor used for gun haulage, is undergoing a gigantic trial in the various theatres of war, and every motor manufacturer making war machines will benefit greatly by the lessons learnt, and the good derived therefrom will be reflected in 'after the war' models.”



Sunbeam upgraded its 6hp twin to 8hp, courtesy of an ohv 992cc MAG engine (the valves were fully enclosed and automatically lubricated, as was the all-chain transmission). The three-speed Sunbeam gearbox and kickstart was retained from the 6hp model but the dummy-belt-rim rear brake was replaced with a drum. Fuel capacity of 2½gal was exceptional for the time. The wheels were QD and interchangeable; “its design, down to the merest detail, has received very careful thought and attention, not a single flimsy part figuring in its construction”.

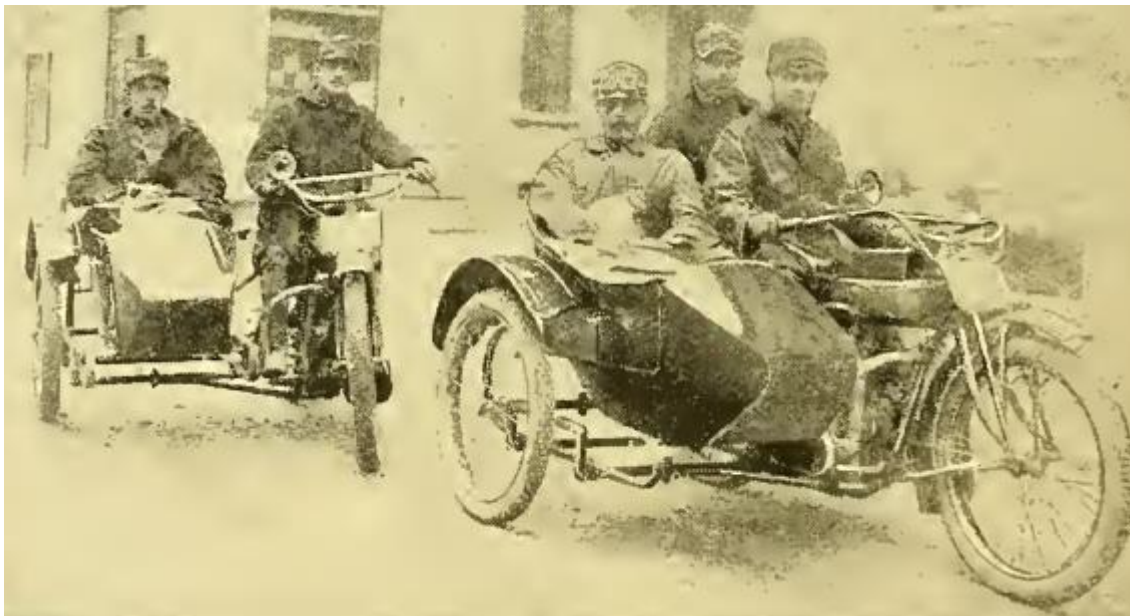
“THOUGH THE USE OF ALUMINIUM alloy for pistons is at the moment confined to car and aeroplane engines, it is very clear from the facts enumerated by using lamps which are considered powerful in our contributor that before long the aluminium will figure largely in motor cycle engines—possessing, as it seems to do, just those peculiarities which commend themselves to the notice of air-cooled engine makers. The fact that an aluminium piston has no tendency to seize, even if on the tight side, but instead conveniently laps itself in, is a particularly attractive point in the case of an air-cooled engine running at high temperature...after careful study of the subject we are of opinion that aluminium pistons will figure largely in motor cycle engines.”



“We hope for the success of twin two-strokes, whether V or horizontally opposed cylinder,

because they are exceptionally nice to handle, smooth in running, and. having unusual 'pull' at low speeds, should be equally tractable either in the thick traffic of a town or the open roads of the country. The latest machine is the V-twin Sun, shown in the illustration, and, although it is of necessity an experimental machine, nevertheless our readers will admit that its lines are particularly pleasing, while the engine fits into the frame in that workmanlike manner only attained with careful design."

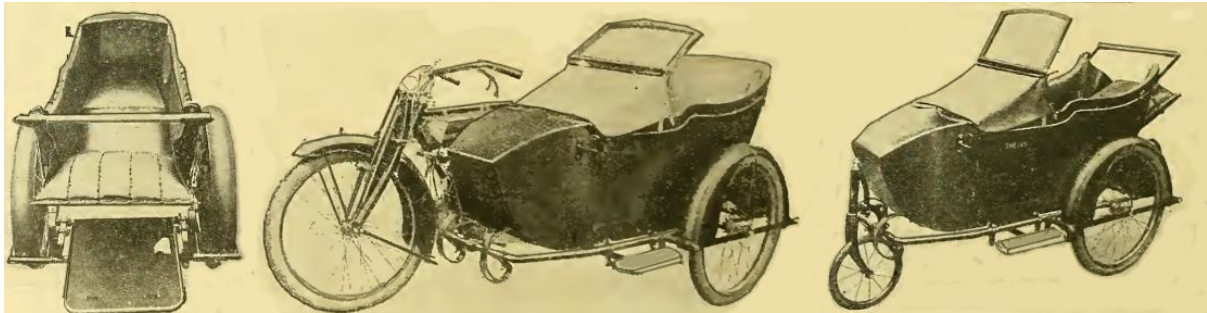
"OVER A SCORE OF MUNITION workers, mostly on two-strokes, took part in the very successful two-hour 40-mile tour of the Kenlish hils the l4th inst. Several competiors had been working all night at Woolwich. The two-strokes included Baby Triumphs, Allons, Clynp, Ixion, and PV, and Scott and sidecar, and the four-strokes included Douglas, JAP, and Enfields. A Grand Prix Morgan and a two-seater Straker-Squire joined in part of the tour. The leader, TJ Ross, captain of the Wolwich &DMCC, rode a newly acquired Junior Triumph. Owing to the bad state of Salt Box and the 'new and secret hill' both were avoided, but the course included both Cudham hills. Chalk Pit, Polsteeple, and Titsey."



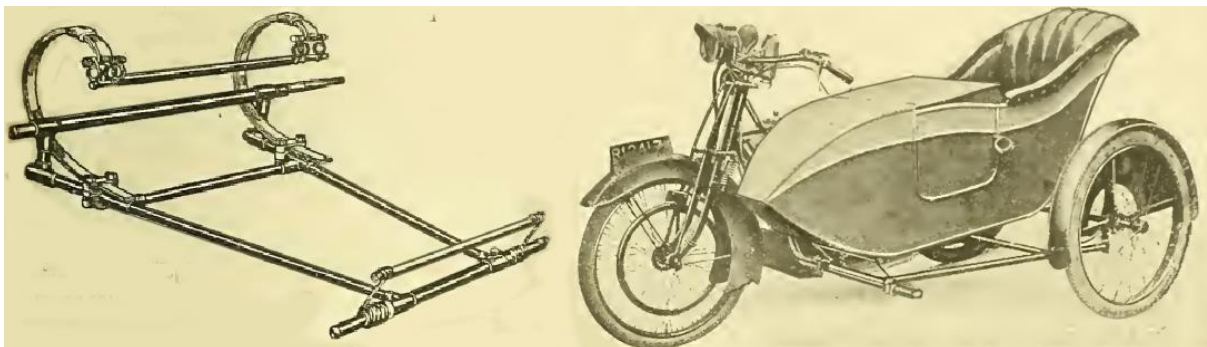
"Two of a large batch of 7-9hp Indian sidecar outfits delivered to the Italian Army. They are being used mainly tor the rapid transport of officers, but in some cases for carrying ammution and general supplies. A number of solo machines of the same make for despatch riders have also been delivered."

ERNEST B HOLTON OF THE FEDERATION of American Motor Cyclists wrote to *The Motor Cycle*: "...Another thing that interests me is the difference in the slang in the two countries. Motor cycling is a sport that is essentially the same both in England and America; still the language is altogether different in many cases. For instance, your riders 'konk out, we 'stall'; you use 'petrol', we 'gas'; you are 'all out', we 'open wide', etc...e 'gas'; you are 'all out', we 'open wide', etc. We have a growing coterie of lightweight manufacturers, but with the roads of the States none too good I cannot see where the market will be very large. A lightweight will haye the touring radius of a bicycle, for the real lightweights have not enough speeds to negotiate steep hills as found in many States...I have just been at work on an article regarding sidecar accessories. We are without many of the refinements that make the sport attractive in wet or cold weather, but have hopes that some keen manufacturer will see the chance and grasp it. We need waders, good ponchos, oil skins, trunk and tyre racks such as the English motor cyclist has...At one time I

marvelled at the English TT handle-bar, but since riding a Harley equipment with a semi-racing bar I agree with 'Ixion' when he favours a bar that causes one to throw some weight on the front wheel. The added sense of security in loose stuff is great."



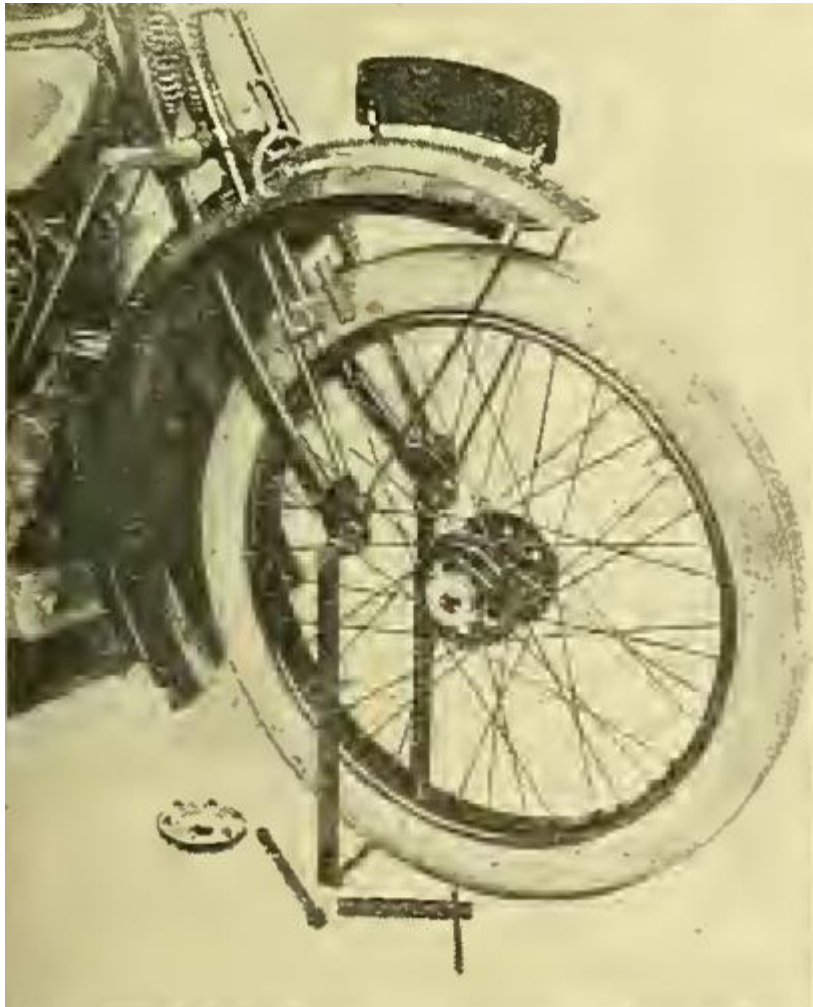
"At the termination of this war a problem will arise to which few people have given any attention, namely, the disabled soldier, who once was an enthusiastic motor cyclist, but now is debarred from this pleasure. For his especial use Messrs SA Newman, have designed and built the Ivy bath-chair sidecar attachment—a sidecar unlike all other sidecars, in that it can be transformed into a bath-chair with very little expenditure of time and labour...As a patient may not always be in a condition to sit upright, the rear panel can fall over at a large angle, but can be supported by a strap at any point over this angle, thus allowing the occupant of the sidecar to assume a prone position..."



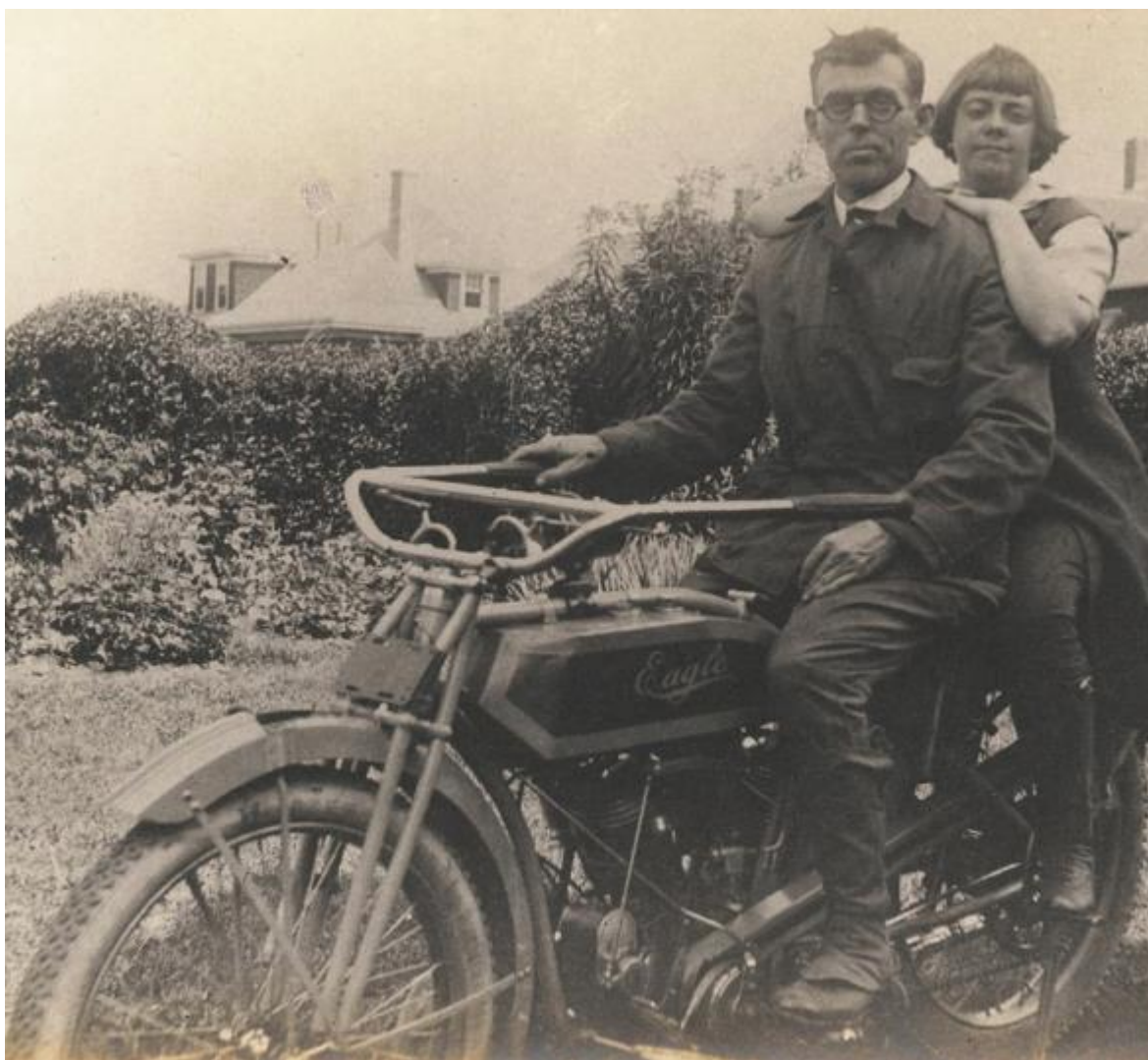
"Montgomery chassis showing shock absorbing spring shackles. Right: New design Montgomery sidecar to be known as the 'Lounge'...Two lockers are provided, one under the toe and the other under the seat. The upholstery is well carried out, and the car, which is extremely roomy, should be very comfortable to ride in."

"SUMMER IS NOW IN FULL SWING on the other side of the Equator, and the last communication from our Auckland (NZ) correspondent, shows that the various clubs in that part of the world are recommencing outdoor activities. We do not think that some New Zealanders can realise the effective manner in which the British Navy has stopped the so-called submarine blockade of the Germans—our Christchurch correspondent goes to the trouble of sending duplicate reports by following mail boats in case the first one should be torpedoed. Napier MCC: For the opening run of this club a large number of members journeyed to Hastings, where they were entertained at afternoon tea by the club captain, Mr J Taylor. Pioneer Club, Christchurch: During the winter months the Pioneer Club has held no competitions, but the racing season was to be opened a month ago with beach races. An opening run was held to Waihora Park when many members had an enjoyable outing. Wellington MCC: The club held a fast hill-climb at Wellington, the entries being fair. The hill selected was 500 yards long, steep, and rejoiced in four sharp corners. The climb was won by R Keene (3½hp Triumph). Otago MC: The annual meeting of the Otago MC was held at Dunedin when there was a large attendance.

Many important affairs were discussed, and it was decided to continue putting before local bodies the question of better roads. It was stated that the club had collected sums of money for the different patriotic funds, and had paid over £300 towards providing motor ambulances for the New Zealand Expeditionary Forces.”



“The AJS detachable wheel. To remove the front wheel it is only necessary to unscrew the centre pin (shown on the floor in the illustration) and withdraw it with a distance piece. To the left is the dust cap for protecting the driving face of hub when used as the front wheel.”



Andrew Ely and his wife Ruth crossed the USA aboard their Spacke-engined Eagle (the Spacke had been in production for six years; this was its last year). The trip from New Haven, Conn to San Francisco took them more than 10 weeks and was, to say the least of it, hard going. As with previous crossings they were forced to follow railroad tracks at some points and resorted to a compass to navigate where roads were non-existent. Ely summed it up as “hard and disappointing in every way”. The Eagle is still in Ely’s family and has been restored to running order.)

TEAMS OF TRAINEE DESPATCH RIDERS representing the Duke of Lancaster’s Own Yeomanry, the Lancashire Hussars and the Cumberland Yeomanry competed for regimental honours over a snowbound northern course. “All were as keen as the early morning air which swept down the Valley of the Kent and from the fog-hidden Pennine heights...The machines were mostly Douglasses and BSAs, but it was noticed that Trooper J Kendall rode the Norton on which he recently performed so successfully at Brooklands...The route lay over the Greyhound Hill to Sedbergh, thence to Dent and up the long Dent Valley to Dent Head Hill, by which Newby Head and Hawes would be reached. Buttertubs Pass gave access to Keld, Tan Hill, and Bowes, whence the homeward way was planned by Tebay. Probably no finer test could be proposed, but alas! man proposes and the weather disposes...The superiority of the chain-driven machines on this class of work was very noticeable. The BSAs were specially successful. Eventually seven machines reached the top of Dent Head Hill, but only one entirely under its own power. The last

of them arrived minus the tread of the rear cover, and with the engine hot enough to burn a large hole in the rider's overcoat. It was amusing to stand upon the snowy crest and note that the first sign of an up-coming machine was the smell, and this long before sight or sound revealed any living thing...It was the sight of this snowy scarp, with the alabaster crest of Whernside towering two thousand feet aloft, that first raised serious misgivings regarding the possibility of the day's run. Moreover, as our road climbed gradually up into the narrow dale between Longshaw Pike and Wold Fell, the splendid dry road-surface changed gradually to an icy slope and eventually we were ploughing through the thickening snow on middle gear. The slower progress did,



DRs team up

to extricate the observer's Ajay combo from a snowdrift.

however, allow time to note the prettiness of the rocky glen alongside, where the turbulent Dee leapt down from ledge to ledge with scarce a boulder to break its dash over the curious limestone slabs...All ideas of competitive riding had long ago vanished all efforts were concentrated on helping each other through and over the difficulties. Sometimes there were spaces between the drifts where the storm had swept the road surface comparatively clear. From these vantage points the despatch riders dashed wildly at the opposing drifts, gradually forcing a way through or over. One solid mass about five feet high was surmounted by placing an old gate over it and thus steadying the snowy mass sufficiently to carry the weight of the machine. The [observer's 6hp AJS twin] sidecar was used on certain occasions as a snow plough...In the expressive official words of the despatch service, the competition was pronounced a 'wash-out', and certainly the snowy Pennines had wiped us out completely. They had had the best of the argument that day. Yet ere long we hope to renew the battle and ride to victory with the despatch riders of the North, than whom no finer sportsmen can be found, though one wander the wide world o'er."



Five despatch riders on the crest of the Pennines at Dent Head. From left: Troopers WJ Skurr, JT Frankland, HL Roberts, T Walker, and G Wightman.

“TO KEEP PACE WITH THE requirements of the Motor Machine Gun Service, the Clyno works of Wolverhampton (the capacity of which has been doubled during the last few months) are kept at full pressure day and night. Men in khaki, who have seen service in the trenches, have been fetched home again to handle the lathes. ” The success of the motor machine gun sidecar outfit is now common knowledge. Since Mr Winston Churchill inspected at the Horse Guards Parade, Whitehall, at the end of last summer, the first unit of the kind produced by Mr Alfred A Scott, and adapted for warlike uses by Messrs Vickers, Ltd, developments in design have been rapid, and the Vickers-Clyno machines which are now used are very different in construction from the original machine gun sidecars. We wish we could tell our readers all about them and their capabilities, but we must bow to the decision of the Censor who forbids. At regular intervals a long procession of machines moves from the Wolverhampton works of the Clyno Engineering Company to the Government base near London...It is seldom that any trouble is experienced on the road, the regular line being maintained from start to finish, for absolute reliability, after all, is a *sine qua non* in the case of every motor vehicle intended for warlike purposes, and, indeed, the name Clyno was one to conjure with for reliability before anybody in this country thought about a war...In this connection one can only now fully appreciate the good effect which was caused by the ACU Six Days Trials routes being arranged over the most difficult road surfaces in the country, usually off the beaten track. In the Lake District and Peak District trials of 1913 and 1914 there were many manufacturers and competitors who considered that the ACU had acted most unwisely in selecting such impossible surfaces, and it will be remembered that some even of the more assertive called protest meetings and tried to organise a strike. But after all, as we pointed out at the time, motor cycles had reached such a stage of excellence that abnormal surfaces were imperative to weed out the weaklings...Now, moreover, British manufacturers are reaping the benefit, for, instead of having to evolve a machine which shall be suitable for abnormal uses in Flanders and other countries where roads are not so perfect as in England, our machines are so staunchly constructed as a result of abnormal trials that they are well able to with-stand the roughest usage to which they may be put.”



The Clyno machine-gun carrier certainly looked formidable.



“A string of Vickers-Clyno. machine gun outfits on the way from the makers’ works to the MMGS training centre.”

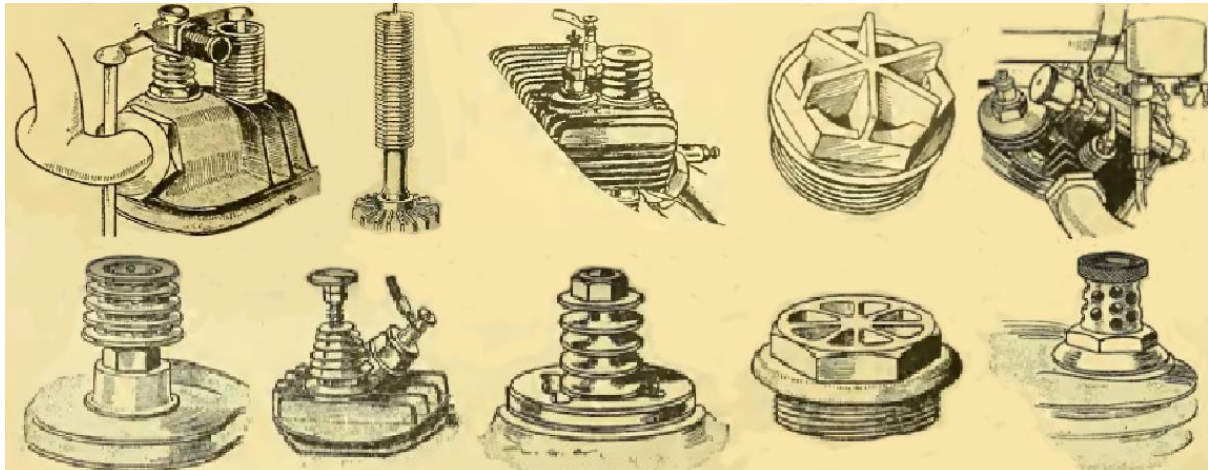
“MAN AND WOMAN ARE DESIGNED almost alike in general outline; woman is now taking her place beside man in work and play as an equal, and as she becomes more practical in her ideas she will very soon see that it is silly to handicap herself by clothing which immensely restricts her movements. The days of the simpering maid have gone with the crinoline, and the sooner the woman discards the skirt, the high heel, and the stays, the quicker will be her progress.

LOGISTES”



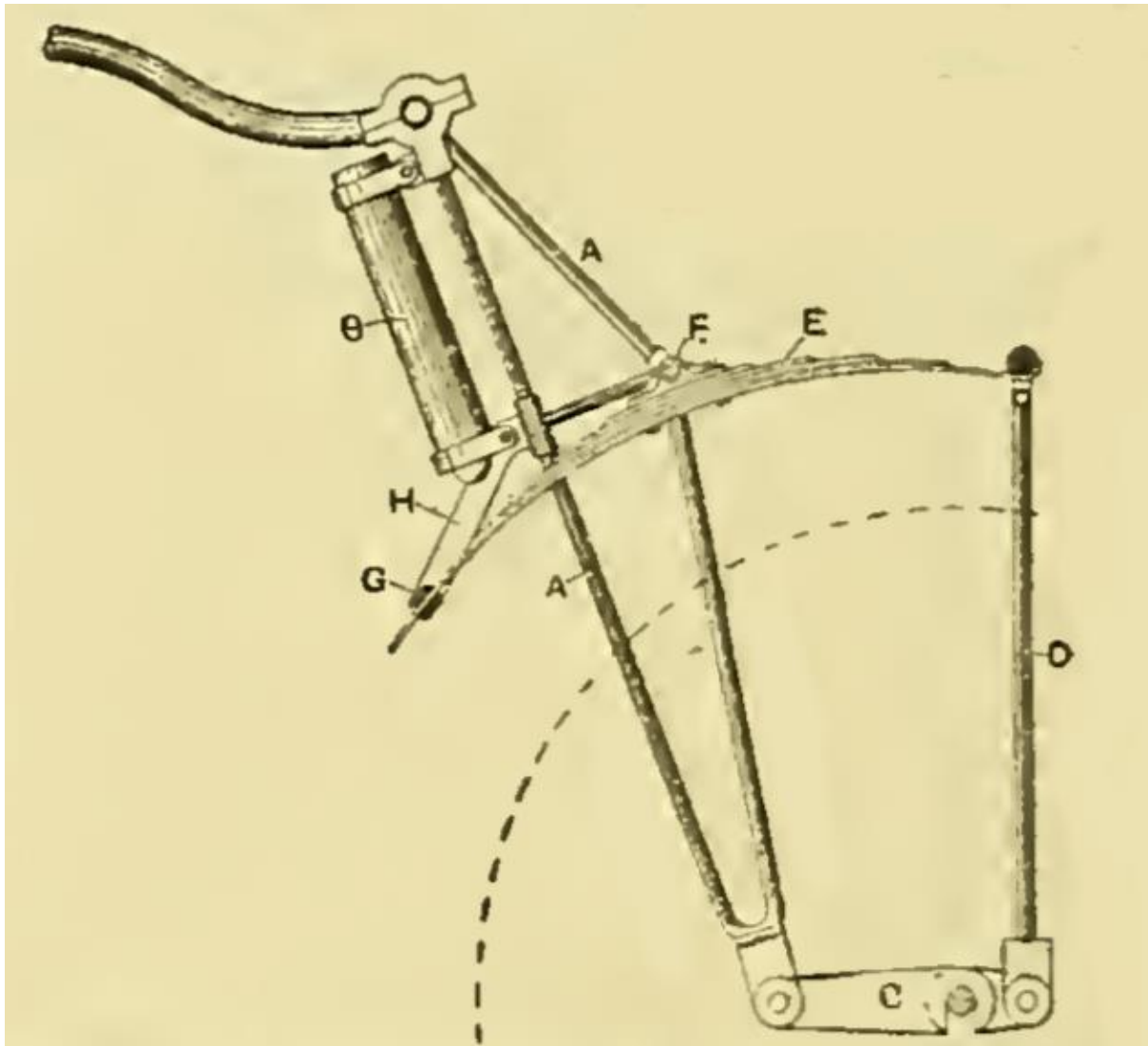
Russian despatch riders on the Eastern Front rode Indians.

WITH BRITISH MOTOR CYCLES in short supply for obvious reasons the Americans were happy to cover the shortfall leading one pundit to note: "Almost without exception, the motor cycles which come from the United States are provided with filler caps of a size which was heartily condemned on all sides over here four or five years ago...The hand-controlled clutch is satisfactory as far as it goes, but surely it would be very much better to control the clutch by means of a Bowden lever on the handle-bar, a method which does not necessitate the driver removing his hand from one of the handle-bar grips...The handle-bar twist control is exceedingly fascinating to those who are accustomed to it, but we are quite sure that the English rider, if given the choice, would infinitely prefer the handle-bar lever..."



"For a very considerable time designers of petrol motors, especially those of the air-cooled variety as used on motor cycles, have been endeavouring by various means to reduce to the greatest possible degree the temperature generated and retained in the cylinders, valves, and pistons of the engines. The chief offender is probably the valve cap..." A number of manufacturers took steps to increase heat radiation. From left, top row: FN inlet valve rocker support cooling fins; Cyclonette valve cap; Puch exhaust valve cap; JAP 8hp valve cap; plug fins used on 1913 TT Matchless and Motosacoche. Bottom row: valve cap on TT BSA; compression tap on a TT FN; TT Ariel valve cap; Blackburne valve cap; QD cap of another TT BSA.

WW DOUGLAS VISITED THE WAR ZONE in France to see how well Douglas motor cycles were performing. He said: "To see the riders dodging in and out long lines of transport trains for mile after mile, on shell plastered roads, furrowed twelve and eighteen inches deep by the overloaded lorries to watch them sliding on the slimy mud, first here, then there, mastering just by an hairsbreadth an otherwise fatal skid that would leave them a crushed muddle of man and machine, not once, but time after time, until it almost becomes a monotonous series of thrills, makes one wonder how on earth any of the older hands exist to-day."



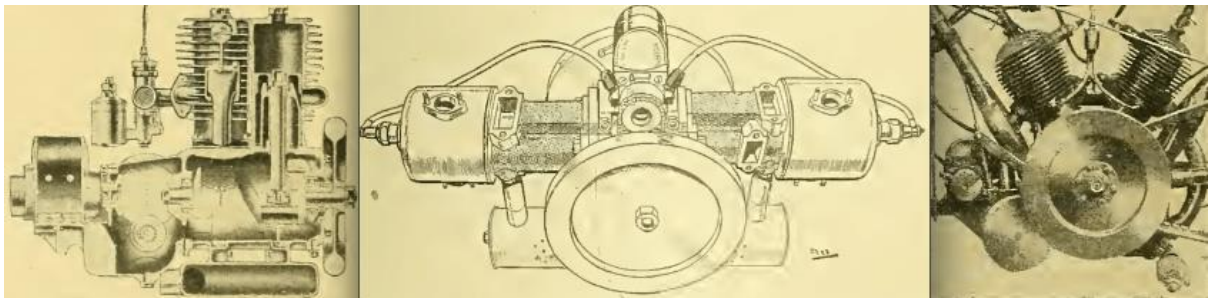
Patent 24,191 by GE Bradshaw covered what would later be known as a leading (or trailing) link fork: "The main girder A is rigidly attached to the steering pillar B, and carries at each side a pivoted link C in which the wheel spindle is secured. Bridging the wheel and ensuring that the side links C always move in unison is an arch member D, to which the front end of the cantilever spring E is attached. The spring is duplicated on each side of the girder A, and the centre is attached at the point F, whilst the rear end passes through a guide G carried by an arm H. The specification mentions that the links C may, if preferred, extend backwards instead of forwards, as in the drawing."



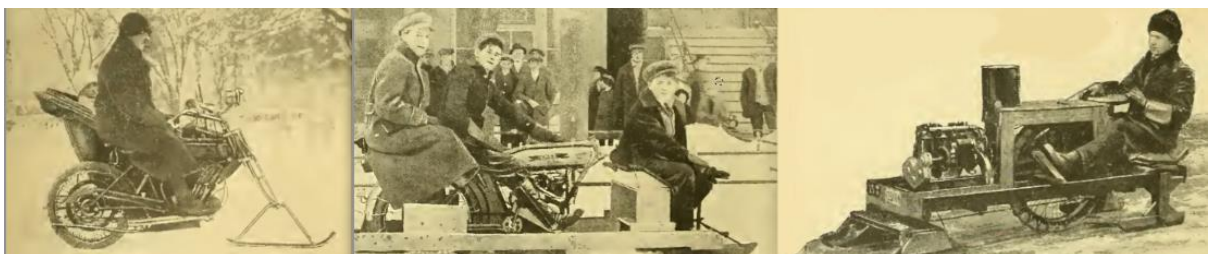
The start of a speed-judging trial between the North Holland and South Holland clubs. Four riders won premier silver) awards, riding a Simplex, a JH, a James outfit and a Vulkaan. Two bronze medals were won by riders of a Triumph and a Reading Standard. "Holland is now the nearest country in which civilian motor cycle competitions are possible. For this reason more interest is attached to the doings of our Dutch friends than might be in times of peace, though we always welcome any news from that country."

A SHORTAGE OF PROFESSIONAL drivers led The RAC and the Commercial Motor Users' Association to suggest a reduction in the minimum age limit for car drivers from 17 to 16 or 15.

IN NOVEMBER BRITAIN imported 10,254,496 gallons of petrol; up from 10,614,143 in 1914 and 8,629,174 in 1913.



A number of firms were working on V, flat and vertical two-stroke twins. The Motor Cycle opined: "the twin two-stroke is full of unsuspected difficulties, but since it will be a thing of beauty to handle, when it has even torque and even balance, the battle between the various types now proceeding in experimental shops will be of exceptional interest. From left: Premier vertical twin, Levis water-cooled flat twin and Sun Vitesse V-twin.



In some parts of the USA and Canada the winter conditions made motor cycling a hazardous occupation. So what do you do with a motor cycle you can't use on the road? You use it to power a sledge. Unless you're Bertel Sandberg of Stockhold, who simply replaced the front and sidecar wheels of his 6hp Enfield outfit with runners.

THE MOTOR CYCLE WASN'T GOING TO LET A GLOBAL WAR get in the way of its traditional Christmas yarn as usual it published two. One was a predictable tale of derring do involving a dastardly German count, spies, zeppelins, a secret formula for high explosive and a plucky chap of a motor cycle (with an even pluckier girlfriend). Germans... explosives...that must have taken Tommy's mind off the war. But t'other yarn was a gem. And it begins, as all good stories should...

The Elopement of Araminta.

By ANGELINA SIMPKINS (Author of "Lilies and Love," "Burning Kisses," "A True Hero," etc.)

"IT WAS A DARK AND STORMY NIGHT. Overhead the chill moon was casting down its yellow rays. Far away in the dim west a purple cloud heralded the coming dawn. In the bushes by the roadside a branch snapped. Lady Araminta MacHaggis, only daughter of the proud Earl of Ettrick, stepped out to the moonlight. Clad daintily in a chiffon veil, a purple parasol to match the sunrise, and a pair of high-heeled shoes, she might have sat for a cubist painting. Her golden hair and blue eyes gleamed brilliantly, and a fledgling sparrow fell from its nest. The horn of a motor cycle sounded far down the road. With a roar and a whirr of dancing wheels a vast two-stroke racing motor bicycle sprang along the road like a giant untamed, and stopped dead as the rider applied the brakes. Roland St Clair leapt from the saddle and sped to meet the waiting maiden. He took no notice of her unusual attire, but cried, "My darling! You are here to meet me! Does your father know you are gone?" "No, Roland, all is well." "The parson is waiting at Aberdeen, a hundred miles away. Come, my darling, our mount is ready." He caressed the engine of



"And a fledgling sparrow fell from its nest." "The parson is waiting at Aberdeen." "Something was terribly wrong."

his beloved Minerva. It burnt his fingers, but he made no sign. A trailer had been attached by the side, and into this Araminta climbed. Roland touched a lever, and the great two-stroke sprang into life, its valves racing up and down as if they knew what a duty was theirs that day. He advanced the ignition of the magneto, and they moved off down the road, gathering speed. Soon he changed the gear and let out the clutch, and in a sudden dash the bicycle nearly went through the hedge. With a magnificent effort of driving Roland turned the corner (he had once taken the first prize at Brooklands), and they sped off down the broad high road at nearly sixty

miles an hour. Lady Araminta looked back. "Oh, Roland!" she gasped, "there is father on his new twin Levis just behind!" Roland looked back, and just missed the hedge. "You are right," he said, "but my old Minerva holds the world's record for speed, and we will beat him yet." With set teeth he bent again to his task. He turned on more petrol, and did something to the accumulator with a penknife. Slowly they drew ahead. At the end of half-an-hour the Levis was several miles behind, in spite of its two engines. The path of love is never smooth. Roland suddenly felt a great bump below him, which he put down to the uneven road. In a few seconds, however, he realised that something was terribly wrong, and, glancing down, he saw his suspicion confirmed. The back wheel had fallen off, and was lying some distance down the road. He ran back and fetched it; but time had been



"There is father just behind!" "He is riding it like a horse." "His spurred and booted heels."

wasted, and as they started off again the panting of the Levis could be heard drawing nearer in the distance. But scarcely had the lovers got up full speed again, when, in turning a sharp hairpin corner, the indiarubber belt broke in two. Roland did not waste a moment. He seized the chiffon veil and tied it tightly round the wheels. "I would rather be drawn by a veil of yours, darling," he panted, "than the best John Bull deep drive that was ever made." The Levis was now only a few yards away, and they could hear the Earl of Ettrick bawling loudly that he would have the law on them. "How I wish it would break down!" sighed Lady Araminta. Roland shook his head. "It cannot," he said. "There are two engines, and when one gives out he can use the other." It was a neck and neck race. But aided by Roland's marvellous skill in driving, the Minerva drew ahead, in spite of the load of the trailer. Several times the Earl of Ettrick was seen to run into the wall at corners, and his curses drifted faintly down the breeze. "He drives very badly," said Araminta, looking back. "It is the first time he has been on a motor bicycle, and he is riding it like a horse. Look at him digging his heels into the engine!" Roland looked, and very nearly ran into a gatepost. "Really, darling Araminta," he said firmly, "the next time you make me look round it will mean a funeral." He accelerated violently, and the cylinder blew off, just missing Lady Araminta. This is one of the worst misfortunes that can happen to a motor bicycle, and nine riders out of ten would have given up hope. Not so Roland St Clair. As the engine raced on erratically, staggering under the faulty compression, he leant over and snatched his loved one from the trailer into his arms. "My angel," he breathed, gazing into her clear blue eyes, "for thee I will dare anything!" Swiftly the Levis drew abreast with the tottering two-stroke, and the Earl of Ettrick grinned spitefully, and attempted to hiss through his clenched teeth. But he failed, owing to lack of practice. As the two machines were running side by side, Roland gave one strong push with his spare hand on the Earl's waistcoat. The nobleman fell off at once from his rather uncertain seat, and, head downwards, found a soft resting-place in the ditch. His spurred and booted heels stuck up stiffly in the air. Roland had grasped the steering wheel of the Levis motor cycle, and now he made a magnificent leap and landed with his living burden safely on the pot-seat

saddle. With his Araminta in his arms he touched the levers, and the swift steed sped obediently away to distant Aberdeen. But the deserted Minerva pursued its erratic course with no hand to guide it. Whirring and clanking, it reeled for hours along the lonely roads, until at last the petrol gave out, and all was still."

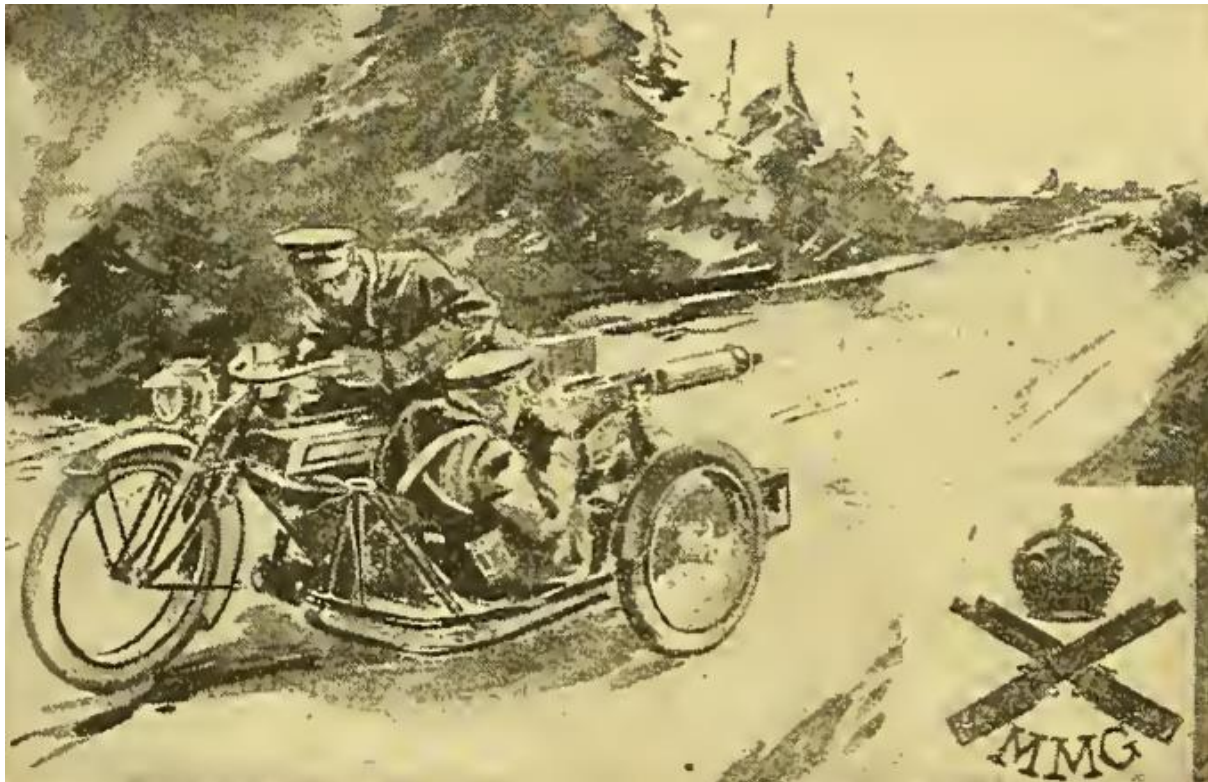


No doubt you spotted the deliberate mistales. The other Xmas yarn took itself more seriously but the closing paragraph and illustrations are worth preserving...

"...BY JOVE!" BROKE IN MAJOR WORSDELL," I never introduced you. This is Sir Edward, who is the Chief Officer of the Secret Service Police of Great Britain." Sir Edward put his hands on Russell's shoulders. "I have recently been looking," he said, "for a live young man with some brains, plenty of muscle, and a whole lot of nerve. I think I have found him this time. There will be plenty of work for you in the service of your country now, and I may mention that His Majesty never fails to recognise distinguished conduct such as you have shown to-day."



"She came forward with joy written all over her pretty face." "The thunder of the huge car drew closer and closer." "His Majesty never fails to recognise distinguished conduct such as you have shown to-day."



The Motor Machine Gun Service had its own Christmas card in 1915.

To close this survey of 1915, here's a selection of contemporary adverts .



**PERFECT MOTOR CYCLE
WITH A
PERFECTLY BALANCED
ENGINE.**

The A. B. C. realises the highest standard of motor cycle construction in having an engine of perfect balance, leaf springing front and rear, car type four-speed gear box, gate change, chain drive, and other exclusive refinements.

**Model A (Touring) £63.
Model B (T.T.) £63.**

Plus 5% Increase.
Art catalogue gratis on request.

A.B.C. ROAD MOTORS
(.914), Ltd., HERSHAM,
WALTON-ON-THAMES.

HARMAN

**ONE OIL
FOR
'TWO STROKES'**



WAKEFIELD

CASTROL 

C.C. WAKEFIELD & CO. LTD. LONDON & CHEAPSIDE, E.C.

The AUTO-CYCLE UNION



Another illustration of Progressive Policy.

The new rules provide that membership now carries

Full Privileges for a complete year from date of joining

(instead of until December 31st of each year).

The Auto-Cycle Union Insurance Policy covers all risks.

It is backed and guaranteed by the Law Accident Insurance Society, but

Disputed Claims are settled by the A.C.U. Committee.

All policies taken out under TABLE III. include,

Free Touring Membership of the A.C.U. without increase of Premium.

Or you can obtain
these privileges for

Per **5/.** Annum.

Is it possible to expend such
a trifle to better purpose?

Write for full particulars to
T. W. LOUGHBOROUGH, A.M.I.C.E.,
Secretary A.C.U., 89, Pall Mall, W.

ENQUIRY FORM.	Make of Machine.	HP.	Date of Manufacture.	Present Value.	Registered Number.
No.....					

Please send full particulars to: Name.....
Address.....



AGENCIES in exclusive territories are offered to progressive men who are equipped to take up the sale of one of the most unique and widely useful motor vehicles that has ever been produced. This new vehicle has many times the selling opportunities of any other form of motor vehicle, both for business and pleasure. It is new, but has been thoroughly tested by two years' road use. It is light, easily operated, easy riding and runs 125 miles on a gallon of gasoline. And its price is so low that almost everybody can afford one. The exclusive agency for the Autoped offers a wonderful opportunity for the man who wants to get into the motor vehicle business right. Visit our plant at Long Island City and see this remarkable vehicle.

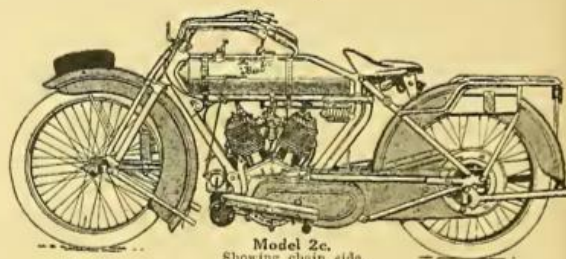
**THE AMERICAN EVER READY WORKS
OF NATIONAL CARBON COMPANY**
Long Island City NEW YORK

WHAT greater comfort can you imagine, when travelling by rail, than a seat in a Pullman Car?

And what greater luxury when motor cycling than a seat on a

BAT

"THE PULLMAN CAR OF MOTOR CYCLING."



Model 2c.
Showing chain side.

MODEL 1.
4½ h.p., 654 c.c.
Smart, speedy,
and capable for
solo work. Rigid
frame. Two or
three-speed gear.

£57 10s.

MODEL 2b.
5-6 h.p., 770 c.c.
Three-speed gear.
Ideal for solo,
useful for sidecar
work. Spring
frame.

£73 0s.

MODEL 2c.
7-8 h.p., 964 c.c.
All-chain drive.
Three-speed gear.
Best sidecar
mount on the
market.

£75 0s.

Let us send you the BAT Art Booklet, detailing and illustrating the famous BAT SPRING FRAME and other exclusive features.

**THE BAT MOTOR MANUFACTURING
COMPANY, PENCE, LONDON, S.E.**



THE LAW COURTS

JUSTICE

invariably ensures that all transactions between buyer and seller shall be reasonably equitable, and if at any time the buyer receives less of value than is his by right, justice may be obtained by legal methods, but few will agree that there is anything of thrift behind any transaction having such a sequel.

The B.S.A. Trade Mark is the reliable guide to motor cycle value. The B.S.A. Company places everything—reputation, goodwill, business advancement, and success, upon the quality of the article to which is attached the B.S.A. Trade Mark. In the case of the B.S.A. Motor Bicycle, the whole energy, facilities and organization of a vast concern is centred upon one ideal, that of giving to the public such goods and service as will ensure complete satisfaction for the purchaser, and at the same time enhance the reputation of B.S.A. manufactures.



B.S.A. Motor Bicycle List Free.

THE BIRMINGHAM SMALL ARMS CO. LTD.
13, SMALL HEATH, BIRMINGHAM.

RIDE A
B.S.A.
MOTOR BICYCLE
FOR SOLO
& SIDECAR



To one End!

The Allies are fighting to one end—
Victory and Freedom.

The Manufacturers of the Great British
Tyre—The Clincher, are also working to
one end—Victory over inefficiency and Freedom from Tyre Troubles.

The allied forces behind this Tyre are, keen business ability, high
quality materials, expert labour, and the wonderful machinery and
organization of the largest Rubber Factory in the British Empire.

For bed rock Tyre value

CHOOSE

CLINCHER

THE FIRST DETACHABLE PNEUMATIC TYRE

Motor Cycle Tyres.

THE NORTH BRITISH RUBBER COMPANY, LTD.,

169, Great Portland Street, LONDON, W.

Factories—Castle Mills. EDINBURGH.



The men in Khaki and — THE CLYNO.

That they need it, the Government demands—
insistent and continuous—are ample evidence—

To fill their need is the one and only purpose
on which we concentrate to-day.

Every nerve, every energy, every man, every
machine, every tool, every facility—all are
working to produce the CLYNO MILITARY
COMBINATION as rapidly as possible for—

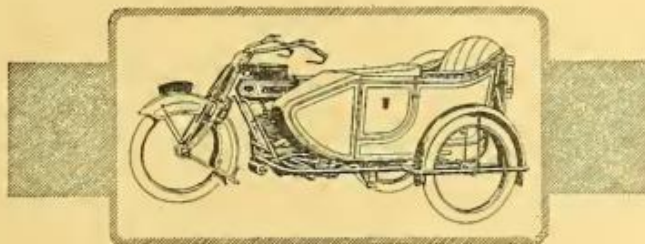
We must not fail "the men in Khaki" while they
fight our battles.

In the meantime the Clyno is proving, under
tests more arduous than any peace-days could
provide, its merit and efficiency—adding to its
reputation daily—proving beyond dispute that
even if you have to wait it is indeed worth
waiting for!

So keep in touch.

The CLYNO ENGINEERING Co., WOLVERHAMPTON.

TELEPHONE—992, Wolverhampton. TELEGRAMS—"Clyno, Wolverhampton."



Where the battle rages

—there
you'll find the
CLYNO

—playing its part nobly in the Allies' fight for freedom—
daily demonstrating its exceptional efficiency—and by its
wonderful war service making a name to be remembered.

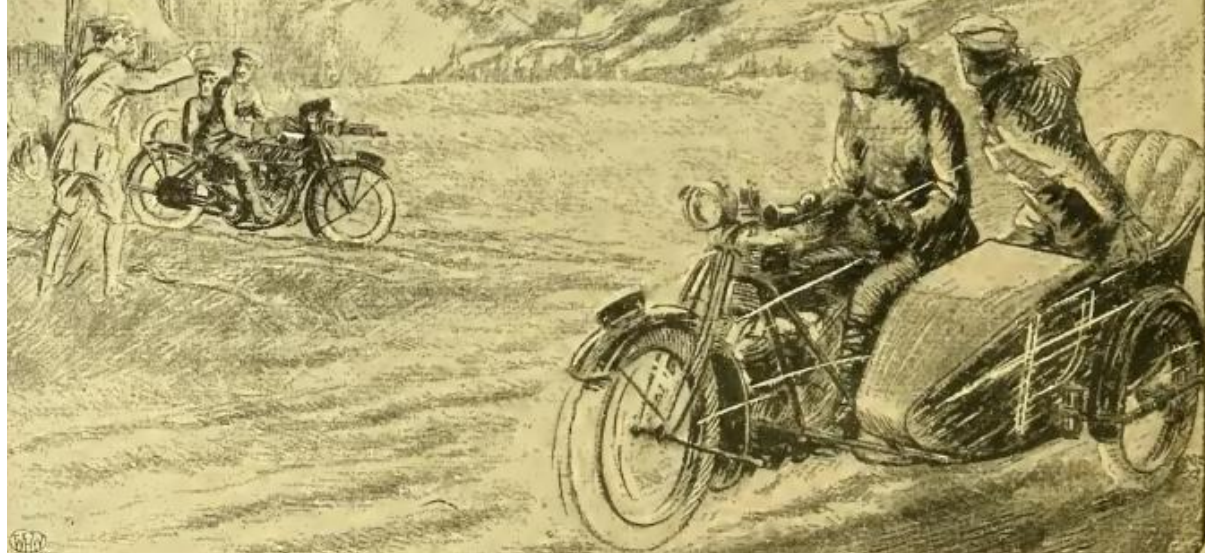
AND—while the CLYNO is needed in the theatre of war—
while we concentrate all our resources on meeting Government
demands for the Clyno Military Combination—other needs
must wait.

BUT—after the War—when we CAN supply you with a CLYNO,
it will be even a better machine than hitherto, for it will
embody the results of the Clyno's war service experience,
and—you will then realise that the CLYNO was indeed
worth waiting for.

**CLYNO ENGINEERING CO.,
WOLVERHAMPTON.**

Telephone: 992 Wolverhampton.

Telegrams: "CLYNO,
Wolverhampton."



Our pleasure.

C

Readers may have noticed that, since September last, we have repeatedly claimed in our advertisements that "the Clyno Combination is, as far as we can ascertain, the only Combination expressly designed for sidecar use which the War Office is ordering."

Before issuing the above we obtained the sanction of the War Office to do so, and, further, secured their assurance that the claim was correct, but even then we were careful to insert the qualifying phrase—"as far as we can ascertain"—as we were most anxious to avoid causing any injustice to other manufacturers. Having received no disclaimer after several months of advertising we, recently, announced the claim in more emphatic and concise terms, briefly stating that "the Clyno is the only sidecar combination being ordered by the War Office,"


We now learn that another well-known firm of Motor Cycle manufacturers have been and are now supplying a special department of the War Office with a single-cylinder machine to which a sidecar is attached, hence we willingly, in justice to them, modify our claim to the one we originally made, and—

We do this with pleasure.



Keep in touch with us.
**CLYNO ENGINEERING
CO., WOLVERHAMPTON.**
*'Phone—992 Wolverhampton.
Wires—Clyno, Wolverhampton.*

DIXIE
MAGNETO
 MILES AHEAD



AMERICAN SUPPLIES Co., Ltd.,
 Direct British and European Representatives
 for Salsdorf Electrical Co., Newark, U.S.A.
 162, Great Portland Street, London, W.

Some dealers are charging more than

4/-

for the standard model

LODGE **PLUG.**

This advertisement is your
 authority for asserting
 that there is

**NO
 ADVANCE
 IN
 PRICE.**

You should refuse to pay
 more than 4/-.

Your dealer has no right
 whatever to extra war
 profits on Lodge Plugs.

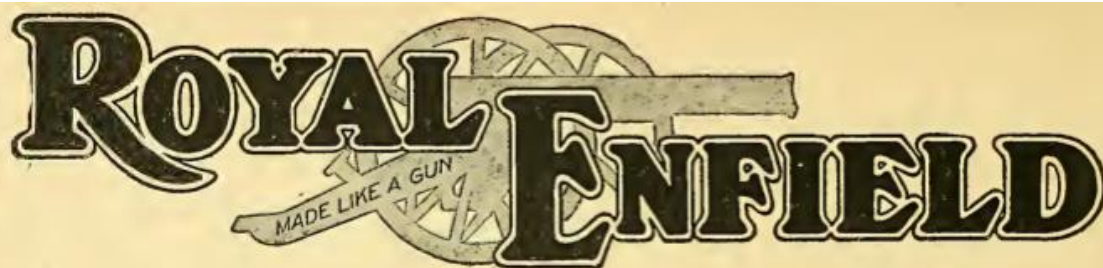
We have kept our prices the
 same in spite of the war.

The LODGE SPARKING PLUG
CO., LTD.,

BIRMINGHAM and RUGBY.



"Our readers will be sorry to learn that Second-Lieutenant Raymond Lodge, the youngest son of Sir Oliver Lodge, and associated with the Lodge Sparking Plug Co, Ltd, has been killed in action. He was twenty-six years old, and was attached to the South Lancashire Regiment, which he joined just after the outbreak of the war."



62,000 Square Feet Additional Floor Area

represents the size of the new buildings now in course of erection at the Royal Enfield works. Although Government requirements are now taxing our resources to the utmost, we shall have this addition to our present large factories to augment our future output for the private buyer.

Full particulars of all our motor cycles in the complete Royal Enfield catalogue, sent free on request. Mention "The Motor Cycle" when writing.

**The ENFIELD CYCLE CO., LTD., Redditch,
and 48, Holborn Viaduct, London, E.C. Agents Everywhere.**

Contractors to His Majesty's Government, the Belgian Government, and the Russian Imperial Military Authorities.

No More Tyre Troubles.

There will be no time lost on the road through bursts or punctures — no wearisome delays — if you fill your tyres with



*The Most Perfect
Substitute for Air
yet discovered.*

WITH ESSENKAY in the covers instead of air tubes you have all the advantages — Buoyancy, Resiliency, and Life — of the pneumatic tyre. Yet you avoid bursts and punctures, and appreciably increase the mileage of the covers.

Essenkay is a Revelation.

ESSENKAY is better by far than the pneumatic tyre, and there is not a particle of rubber in it. It won't rot or perish. It won't harden. It is impervious to heat, cold and climate. Proof against acids, chemicals, petrol, and oil.

Agents — We are open to appoint
Wanted. live Agents in many districts.

Not affected by continuous use.

ESSENKAY is not affected by continuous running — when the covers have been worn through the ESSENKAY filling can be transferred to new ones.

Test It Free.

Get ESSENKAY into your tyres without delay. We offer you an opportunity of testing it Free and at our expense. So do not hesitate. Write to us to-day.

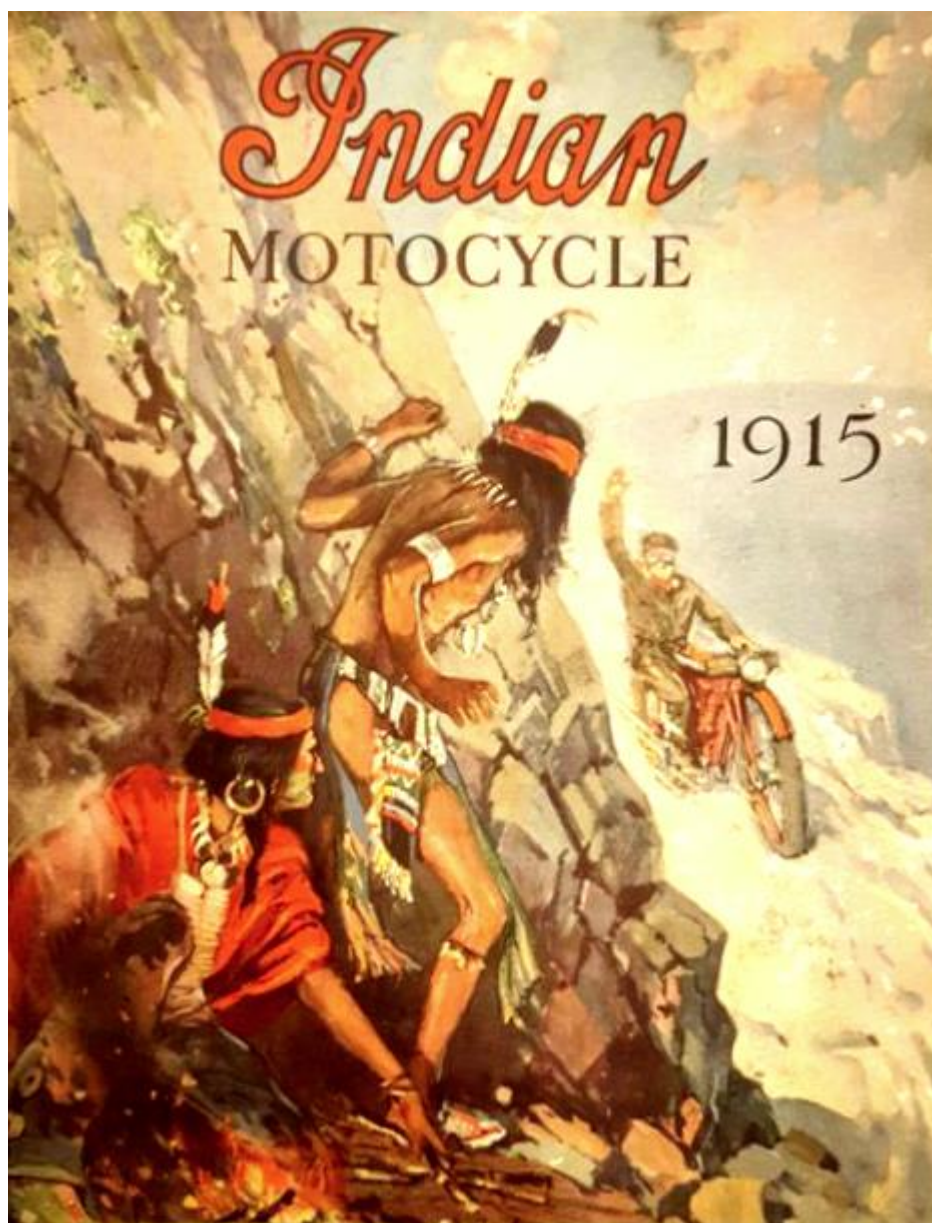
ESSENKAY LTD.,
28, Southgate St., Leicester.

Godbolds

Indian

MOTOCYCLE

1915



Eleven Hundred Miles in 3 days

from Inverness-shire to the West of Ireland with heavily laden sidecar and carrier, over the worst roads possible without one involuntary stop (except for a puncture), constitutes no mean performance even for

The Silent Grey Fellow

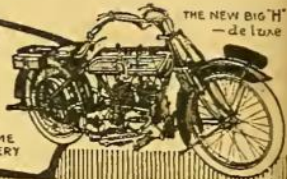
This remarkably fine achievement was accomplished last month by a HARLEY-DAVIDSON rider residing at Knappach, Kingussie. The magnitude of the test on frame and engine will be fully appreciated by riders who are familiar with the appalling condition of the roads in the West of Ireland

Full Marks and 1st Class Award

was won by THE HARLEY-DAVIDSON and Sidecar entered for the Dublin and District M.C.C. One Day's Trial Proof again that THE HARLEY-DAVIDSON is the best all-round machine with powers far above the average. The seven mile grind up the Mourne Mountains and the roughness of the roads made no impression on the Silent Grey, which romped home without any trouble

The Only Motor Cycle with One Year's Guarantee

Model 11J, equipped with electric lighting and warning system is the motor cycle *sans pareil*. Fully described in the Grey Book, which will be sent on request



THE NEW BIG "H"
—deluxe

Hazlewoods
LTD COVENTRY.

Being engaged in munitions of war ask the indulgence of their agents & the Motor Cycle public in the matter of deliveries

MEANWHILE WRITE & HAVE YOUR NAME BOOKED FOR EARLIEST POSSIBLE DELIVERY

The Food Drink which promotes
fitness and efficiency is

HORLICK'S MALTED MILK



A glass of Horlick's is always the best invigorator. Taken before a ride it will give strength and endurance, and after strenuous exertion there is no better pick-me-up. At all times it gives and maintains fitness and stamina, and is especially useful to men on Active Service.

SUPERIOR TO TEA, COFFEE, COCOA, AND BEEF EXTRACTS.

READY IN A MOMENT WITH HOT OR COLD WATER ONLY. NO COOKING.

Served in Hotels, Cafés, and Railway Refreshment Rooms.

Also available as delicious food tablets to be dissolved in the mouth.
Relieve hunger and thirst and prevent fatigue.

Supplied in Sterilised Glass Bottles, at 1/6, 2/6, 11/-, by all Chemists and Stores.
The Tablets also in convenient Pocket Flasks at 6d. and 1/- each.

Liberal sample sent post free for 3d. in stamps.

HORLICK'S MALTED MILK COMPANY, SLOUGH, BUCKS.



REDUCED PRICES for 1915.

**THE MOST DEPENDABLE
THE MOST ACCURATE
SPEEDOMETER IN THE WORLD.**

Jones Speedometers are constructed on the centrifugal gyroscopic principle, entirely unaffected by temperature changes or the proximity of magnetic or electrical devices. Its principle is that of a natural law, as unalterable as the law of gravity, and positively constant.



Every single instrument is individually calibrated by expert instrument makers, and their accuracy is endorsed by the highest authorities the world over.

In All-Black Finish with Black Metallic Flexible Sheathing and all fittings complete.

Model 12, showing:
Total and Trip Mileage.
Speed to 80 m.p.h.

Price £2 : 15 : 0

Full Literature of

MARKT & Co. (London), Ltd.
98-100, Clerkenwell Road, E.C.

THE LONG HORN REDUCED PRICES FOR 1915

Purely Mechanical. Hand Actuated.

A warning that cannot fail.

No Electrical Apparatus.

Nothing to get out of order.

**Its outstanding feature is
RELIABILITY.**

IN BLACK
FINISH,
25/-

Does not depend on delicate electrical apparatus—uncertain in its action and expensive to maintain.

Its response to a touch is instantaneous, and the volume of sound is completely under the operator's control.

New Competition Model, No. 2.
All Black, 17/6

Write for Lists:

MARKT & CO. (London), LTD.
98-100, Clerkenwell Road, E.C.



The



GEAR.

SUITABLE FOR
ENGINES
UP TO 8 H.P. TWIN

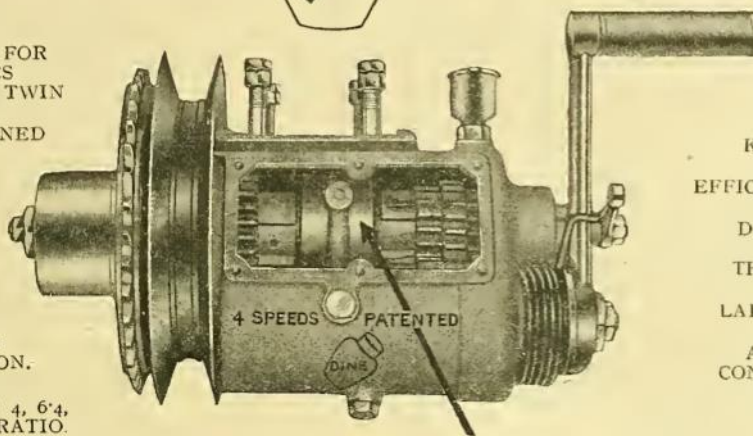
—
SELF-CONTAINED
UNIT.

—
NEAT IN
DESIGN.

—
ROBUST
CON-
STRUCTION.

—
EASY IN
MANIPULATION.

—
GEAR RATIO 4, 6'4,
9'2, 14'8, PRO RATIO.



4 SPEEDS.

—
KICK-START.

—
EFFICIENT CLUTCH.

—
DOG CLUTCH
CHANGE
THROUGHOUT.

—
LARGE PULLEY.

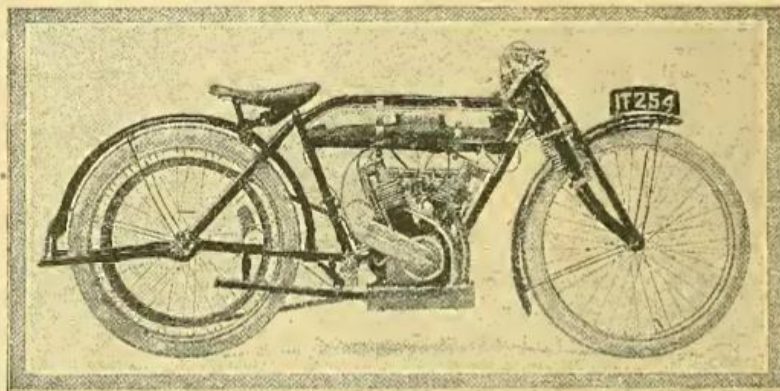
—
ALL GEARS
CONSTANTLY IN
MESH.

THE ONLY SLIDING PART.

The IDEAL GEAR—MATERIALISED.

JARDINE, NOTTINGHAM.

The J.H. is at the Front.



This is the New 1915 T.T. Racer Model.

3½ h.p. M.A.G. Twin Engine with Overhead Inlets 496 c.c.

Also 2½ h.p. Two-stroke; to 6 and 8 h.p. Twins.

WRITE FOR
CATALOGUE
AT ONCE.

J.H. Motor Engineering Works,
Castle Mill Street, Mumps, Oldham.

JAMES
HOWARTH,
Proprietor.

Unsolicited Testimonial from the Front.

Base M.T. Depot Rouen,
France,
20/6/15.

To the J.H. Motor
Works, Oldham.

Sirs,—I am writing to
state that for the short
time I have ridden your
J.H. 3½ h.p. Twin, it is
only in justice to you
to state that the machine
has never given me a
moment's anxiety, and
really is, in my opinion,
the ultimate machine
for solo work on all
kinds of roads—easy
starting, silent running,
acceleration, and speed,
being but a few of its
good points.

You may use this
testimonial as you
please. I am in no way
connected with the firm.

07761, Private
Constad, H.

LAMB'S

IN STOCK.

New 1915 Models

LEVIS No. 1's (3 just arrived) £36 17
 ENFIELD 6b.p. Combinat'n £84 0
 De Luxe £100 model due in.
 HARLEY-DAVIDSON, 11J, and Sidecar, electric model .. £92 0
 HARLEY-DAVIDSON, 11F, and Sidecar (2 in stock) £84 0
 ALLDAYS Allon, single-sp. £31 10
 ALLDAYS Allon, 2-sp. (2 in stock) £38 17
 CALTHORPES, all models in stock.
 NEW HUDSON Big Six, fawn Combination, luxurious outfit £92 8
 NEW HUDSON, 2-stroke, 2-speed, Model C (3 in stock) ... £36 0
 Model A £29 17
 Model E £31 0
 JAMES 4½h.p. Combination (just arrived) 73 gns.
 QUADRANT Canoelet 4½h.p. sil-chain Combination, B.S.A. 3-sp. countershaft gear £71 10
 RIZZ, 11h.p., 2-seater, all on (due in) £120 0
SIDECARS (NEW).
 Swan de luxe, hood, electric lamp 21 gns.
 Express (Harley-Davidson) .. £16 14
 Canoelet £16 16
 Canoelet (Indian) £13 1
 Watsonian, models G and H 10 gns.
 Phoenix, several models from 59 15
 Also several Second-hand Sidecars and Bodies. List on application. TERMS— $\frac{1}{3}$ down and balance in 12 payments. Liberal discount paid in 1, 3, or 6 months.
EXCHANGES—
 Good allowances.

151, High St. Walthamstow, Essex

Phone—127 Walthamstow.
 Nearest Station—Jno Street, G.E.R.
 Hours—8 to 9.30. Thurs.—9 to 1.

The "IVY" Two Stroke



THE ARISTOCRAT OF ITS TYPE

S. A. NEWMAN, Ltd., | Send for List, post free.
 Aston Cross, Birmingham.

Specially recommended to Motorists and Motor Cyclists.

The O.W. Leather Cuirass (LEATHER JERKIN).



Ordinary Quality.

Weights only a few ounces. Waterproof. Windproof. Completely protects the vital organs: does not impede movement. Fits any figure from 34in. to 48in. waist or chest. Sweater can be worn underneath.

Ordinary quality. Price 12 6
 Superior quality, glove leather, "V" front. Price 15/-

The MIT-GLOVE.
 A new pattern of gloves allowing free use of the fingers when required.
 Price—
 In woollen material, palms lined leather, 5/6.



Fingers and thumb entirely free.



Extra Special Quality—with sleeves.

With sleeves in glove knit, latest model. Price 35/-

O.W. CUIRASS Syndicate, Aberdeen Chambers, 40, Gt. Marlborough St., W.
 Liberal Discounts to the Trade. (2 minutes from Oxford Circus.) Applications invited.



TAN LEATHER M.C. COSTUME.

Best Quality Tan Chrome Skins, lined camel fleece.

A magnificent costume
for Winter Riding.

The coat is double-breasted and cut on smart lines.
The Trouser Overalls are also lined camel fleece and
have a strap at the ankle.

Price of Coat, £2 12 6

Price of Overalls, £2 2 0

Coat (lined tweed) £2 2 0

Overalls „ „ £1 12 6

Dunhills Ltd.,

359-361, Euston Road, LONDON, N.W.

2, Conduit St., W. 42, Lombard St., E.C.

Manchester : 90-92, Cross St.

Glasgow : 72, St. Vincent St.

BURBERRY TIELOCKEN

WEATHERPROOF MOTOR CYCLE KIT

BURBERRYS LATEST INVENTION for the Motor Cyclist—a double-breasted buttonless coat designed to provide security and comfort under the severest conditions.

*Genuine
Burberry
Garments
are
labelled
'Burberry'*

BURBERRY WEAVE-PROOF GABARDINE, lined with proofed wool or Camel fleece, unite to make the Tielocken Coat an efficient safeguard against rain, snow, or dust.

LIGHTWEIGHT YET WARM, it provides an impenetrable shield to wind or cold, yet it ventilates like an ordinary cloth jacket; thus preventing all dangers of overheating or chill.

THE TIELOCKEN COAT, fastening with a single strap-and-buckle, is easily put on or taken off. It is thoroughly workmanlike, yet smart and attractive in appearance. Worn with Overalls of Gabardine it supplies the most staunch and effective bad weather kit available.



"Tielocken Coats provide double protection over the vital parts of the body where it is most needed, the overlapping fronts keeping the chest safeguarded against cold winds or rain."

THE BADMINTON MAGAZINE.

Illustrated Tielocken Brochure and Patterns of Gabardine, Post Free.

PRICES—Tielocken Coat in Gabardine lined wool, 68/-, Trouser Overalls, 31/0. Motor Cycle Cap, which can be readily transformed into a snug-fitting helmet, 15/-.

BURBERRYS Haymarket S.W. LONDON

8 & 10 Boul. Malesherbes PARIS; Basingstoke and Provincial Agents.



VER-SEAS

Built to endure the most exacting touring conditions
— which it does with unremitting consistency.

TWO MODELS.

6 h.p. Twin Cyl. 3½ h.p. Single Cyl.

THE OVER-SEAS MOTOR CO., LTD.,
1a, Johnstone Street, BIRMINGHAM.

MOTOR-CYCLE

Pope Motor Cycles

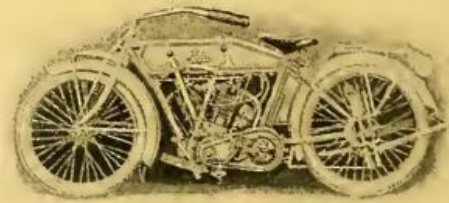
FOR SPEED, COMFORT, AND RELIABILITY
THESE MACHINES SMILE AT HILLS AND POT-HOLE ROADS

Send or call for prices and particulars.

THE POPE MOTOR CYCLE AGENCY,

Telephone—London Wall 1137.

55, BANNER ST., E.C.



THE BIG TWIN

Telegrams—"Acarebox, London."

A Monthly Competition

for

**Despatch Riders at the Front,
or otherwise connected with the Allied Forces.**

INTERESTING LETTERS.

The best letter relating to the doings of the Rudge

Each Month - - £5

The 5 next best letters

Each Month - £1 ea.

**The most interesting letter making reference
to the Rudge received during the War,
whether having previously won a prize or not**

£10.

INTERESTING PHOTOGRAPHS.

The most interesting photograph,
including a Rudge in the picture

Each Month - - £5

The 5 next best interesting photographs

Each Month - 10/- ea.

**The most interesting photograph, including a
Rudge in the picture, received during the War,
whether having previously won a prize or not**

£10.

In the Service of the King



HONOUR.

TWENTY-FIVE PER CENT. of the skilled workmen employed in the manufacture of "SPHINX" Plugs are serving in the Fighting Line with wounds and honour. Those who remain behind are serving with equal honour in the daily supply of thousands of "SPHINX" Plugs required by His Majesty's Forces. BECAUSE there is no other firm in the British Empire who for over ten years have made the manufacture of sparking plugs their sole speciality, THEREFORE is their plant, their experience, their organisation, and expert knowledge required in the Service of the King.

SPHINX

THE SPHINX MFG COMPANY, BIRMINGHAM

GET IT AT TAYLORS

SOLE LONDON AND DISTRICT AGENTS FOR

A.J.S. & EXCELSIORS

Sole District Agents for GALTHORPES.
Contracting Agents for all makes.

TERMS—Cash, Exchange, or Extended Payments.

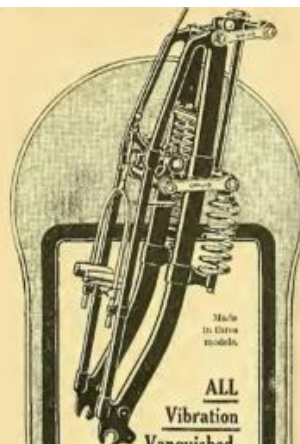
IMMEDIATE DELIVERY OF NEW MODELS.

7-9 h.p. HARLEY-DAVIDSON Combination, electric lighting set, grey finish	£85	7	6
4 1/2 h.p. EXCELSIOR Combination	£82	12	9
3 1/2 h.p. ROVER Combination	£80	0	0
3 1/2 h.p. JAMES, twin, 3-speed	£66	3	0
2 1/2 h.p. GALTHORPE-J.A.P., 3-speed, handle-bar control ignition	£35	10	6
2 1/2 h.p. Lady's COMET, 2-stroke, 2-speed	£33	1	6
MILLFORD Corvette, coach-built	£13	12	0

A FEW BARGAINS FROM OUR SECOND-HAND STOCK.

If you purchase your A.J.S. from us you can rely on a properly adjusted and tuned-up machine.

	Cash.	Deposit	Pay- ments	of
£ s.	£ s.	£ s.		
5-6 h.p. 1915 GARDEN de Luxe Monocar, many extras	70	0	35	0 62/8
8 h.p. 1913 HENDERSON, 4-cyl., 2-sp., very fast. Forecar for same	53	0	26	0 53/9
6 h.p. 1913 A.J.S., 5-sp., and 1914 coachbuilt oc.	65	10	23	0 30/3
2 1/2 h.p. 1915 ALLDAYS-MATCHLESS Combin'n	38	0	—	—
3 h.p. N.S.U., magneto, 2-speed	18	10	6	0 22/-
3 1/2 h.p. MATCHLESS, mag.	17	10	6	0 21/3
6 h.p. 1913 A.J.S. and Millford Sidecar, fully equipped	60	0	—	—
5-6 h.p. 1915 INDIAN, 3-speed	52	10	17	10 62/8
GONDOLA Sidecar, cane.	4	10	—	—



ALL
Vibration
Vanquished.

The DRUID MARK II. is essentially THE Fork for providing the complete insulation of the Rider from ALL Vibration. CORRECTLY designed—and exclusively so—it offers a "shock-absorbing" service which entirely obviates that of any other springing device on the market.

The DRUID MARK II. absorbs both Horizontal and Vertical Shocks and fulfils ideally EVERY function of the PERFECT double-acting Spring Fork.

It sets up no objectionable "dithering" action, so common with the ordinary Spring Fork—eliminates risk of breakage or accident—provides remarkably comfortable riding—and makes the machine last longer.

Now, fit the "DRUID" to your present mount, or INSIST on its presence in your New Machine.

The GOODS at MAUDES'



SECOND-HAND BARGAINS.

SIDECAR OUTFITS.

WILLIAMSON, 1914, 8 h.p., water-cooled	£88
INDIAN, 1914, 7 h.p., 2 speeds, de Luxe Sidecar	£85
R.S.A., 1914, 7 1/2 h.p., chain drive, 3 speeds	£50
REX, 1914, 6 h.p., 2 speeds, Portland Sidecar	£55
REX, 1914, 6 h.p., 2 speeds, hand start	£65
REX, 1914, 6 h.p., 2 speeds, kick start	£50
REX, 1914, 8 h.p., 2 speeds, Spark engine	£55
R.S.A., 1914, 7 h.p., 2 speeds, Clutch Car	£50
A.J.S., 6 h.p., 1914, 3 speeds, Glenside Sidecar	£77

SOLO MOUNTS.

DOUGLAS, 1914, V.T.T., 2 speeds, accessories	£44
DOUGLAS, 1914, W, 2 speeds, accessories	£44
DOUGLAS, 1914, V, 2 speeds, Banks carburettor	£48
DOUGLAS, 1914, V, 2 1/2 speeds, accessories	£46
DOUGLAS, 1914, 2 1/2 h.p., single speed	£18
GALTHORPE, 1914, 2 1/2 h.p., J.A.P., 3 speeds	£26
ENFIELD, 1914, 2 1/2 h.p., 2 sp., 2 stroke, as new	£24
LITTLE GIANT, 1914, 2 h.p., 2 speeds, like new	£24
R.S.A., 1914, 2 h.p., T.T. model, as new	£30
UNWEAM, 1915, 2 1/2 h.p., 2 sp., all accessories	£57
SCOTT, 1914, 2 1/2 h.p., 2 speeds, kick start	£50
SCOTT, 1914, 2 1/2 h.p., 2 speeds, accessories	£58
F.N., 1914, 2 1/2 h.p., 2 speeds, new lightweight	£25
REX, 1914, 2 1/2 h.p., 2 speeds, 2 stroke, order	£20
AUTO-WHEEL, 1914, 2 h.p., very low order	£10
ZENITH, 1914, 2 h.p., clutch, no mm.	£45
N.S.U., 2 h.p., twin, ground policy	£20
EXCELSIOR, 2 h.p., 3 speeds, just overhauled	£20
RUDGE, 1914, 3 h.p., clutch model	£26
GALTHORPE, 1914, 2 h.p., 2 speeds, as new	£21
TRIUMPH, 1908, 2 1/2 h.p., 2 sp., just overhauled	£20

NEW MODELS.

NEW RYDER, 2 1/2 h.p., 2-stroke	£27	6
ROYAL RUBY, 2 1/2 h.p., 2-stroke, 2-speed	£24	10
ROYAL RUBY, 2 1/2 h.p., 2-stroke	£20	4
ROYAL RUBY, 2 1/2 h.p., J.A.P., 2-speed	£37	3
NEW RYDER-J.A.P., 2 1/2 h.p., J.A.P., 2-speed	£23	12
ZENITH, 2 h.p., clutch model, as new	£22	0
MORGAN, 2 h.p., 2-speed, as new	£25	12
ZENITH, 2 1/2 h.p., twin clutch model	£20	19
ZENITH, 2 1/2 h.p., clutch model	£20	7
J.M., 2 h.p., M.A.G., Combination, 2 speeds	£28	4
INDIAN, 2 h.p., 2 speeds, new T.T.	£23	0
RUDGE, 2 1/2 h.p., Multi, clutch model	£28	15
ENFIELD, 2 h.p., twin, 2-speed, T.T.	£22	10
LEA-FRANCIS, 2 1/2 h.p., twin, all-chain drive	£20	10
SUN-VALLEY, 2 1/2 h.p., 2-stroke, single-speed	£27	11
REX, 2 h.p., 1914, Combination, 2-sp., new	£26	0
JAMES, 3 1/2 h.p., twin, 3 speeds, all-chain	£26	6

All the above actually in stock at the time of going to press.
Second-hand Motor Cycles, Sidecar Combinations, and Light Cars Bought for Cash. Exchanges arranged.

It is worth while to wait when you know it is wait- ing for a good thing.

Will you wait while we fill the urgent needs of the Country—while we help, as far as it is in our power, the men bearing the heat of the fray ?

To every patriotic Britisher the Country's needs come first. The destiny of Empire is in the balance. Will you surrender your personal requirements in this hour of stress, while we throw our immense manufacturing resources into the scales, and wait for the day of peace which every moment draws nearer ?

The Triumph Motor is doing a great work in helping our brave men, but the call is constant and insistent for more—a striking tribute to their marvellous efficiency.

Will you help us and wait ? Peace day will again see us at your service.

Triumph Cycle Co., Ltd., Coventry.

The word "TRIUMPH" is written in a bold, serif, all-caps font. The letters are thick and closely spaced. A decorative horizontal line with a slight upward curve at both ends runs beneath the letters, starting under the 'T' and ending under the 'H'.

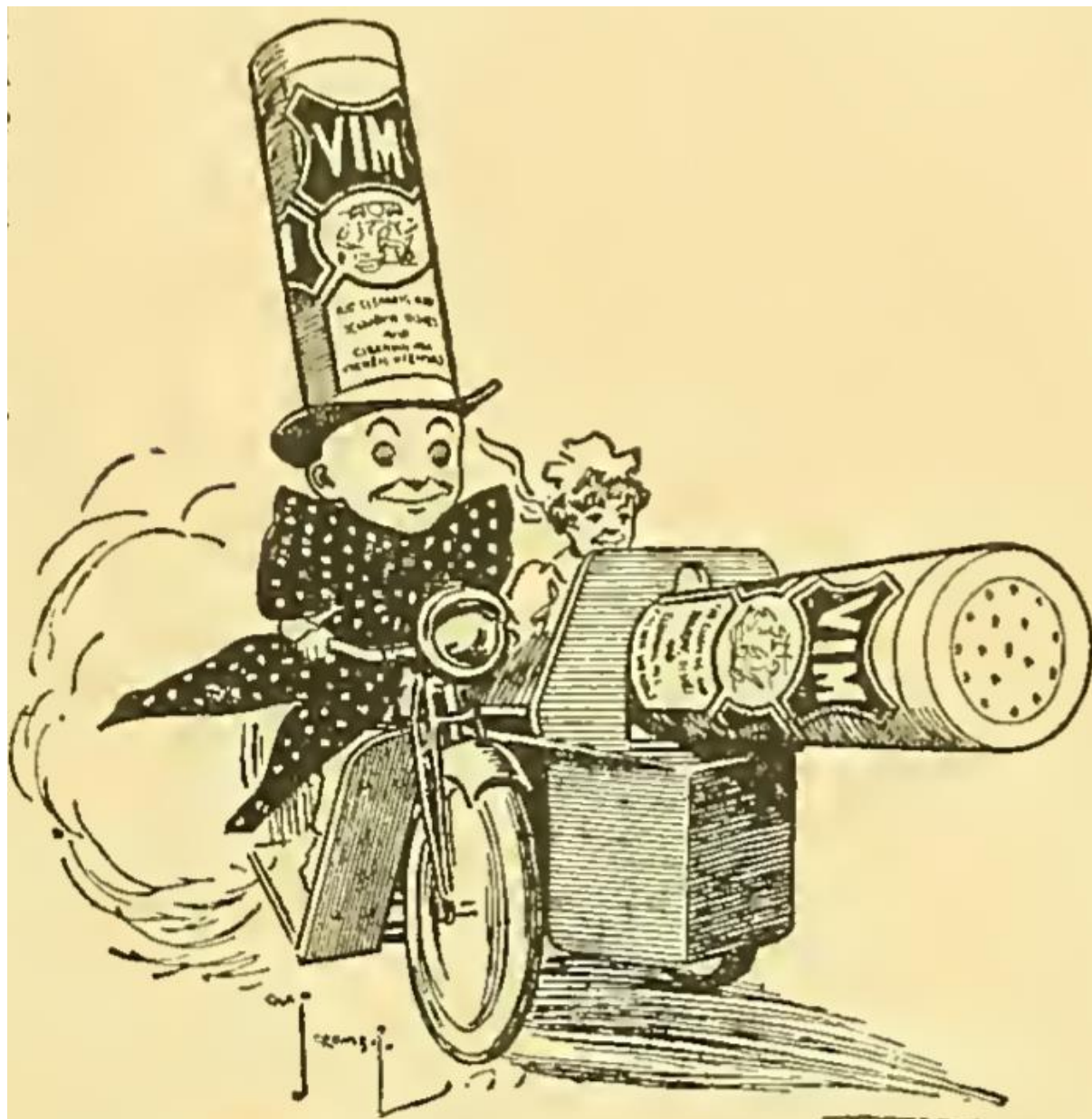
The Country's Call.

No arm in the service has figured more prominently or with greater distinction than the Motor Cycle Dispatch Rider in this world struggle of the nations, and no motor has shown greater adaptability from peace to war conditions, and proved its great superiority under the unparalleled conditions prevailing, than the Trusty Triumph.

Triumph Cycle Co., Ltd., Coventry.
GLASGOW 14, WATERLOO STREET.

TRIUMPH





An amusing illustration reproduced in a daily newspaper advertisement of a well-known household cleanser. The artist has evidently heard of the motor machine gun batteries !

Società Anonima **Frera**

LA PIÙ
GRANDE
FORNITRICE
DI MOTOCICLI
DEL
R. ESERCITO
ITALIANO



MOTO TANDEMS **FRERA** con SIDE-CAR5 Modello "ITALIA".
Tipo adottatissimo dal R. ESERCITO ITALIANO
(Opera con facilità qualsiasi salita)

4 HP 1 Cilindro

8 HP 2 Cilindri



LA MARCA
ITALIANA
PIÙ
DIFFUSA
E PIÙ
ADOTTATA

CHIEDERE CATALOGO ILLUSTRATO E LISTINO
SPECIALE "SIDE-CAR" DI LUSO ALLA

SOCIETÀ —
ANONIMA

FRERA - TRADATE

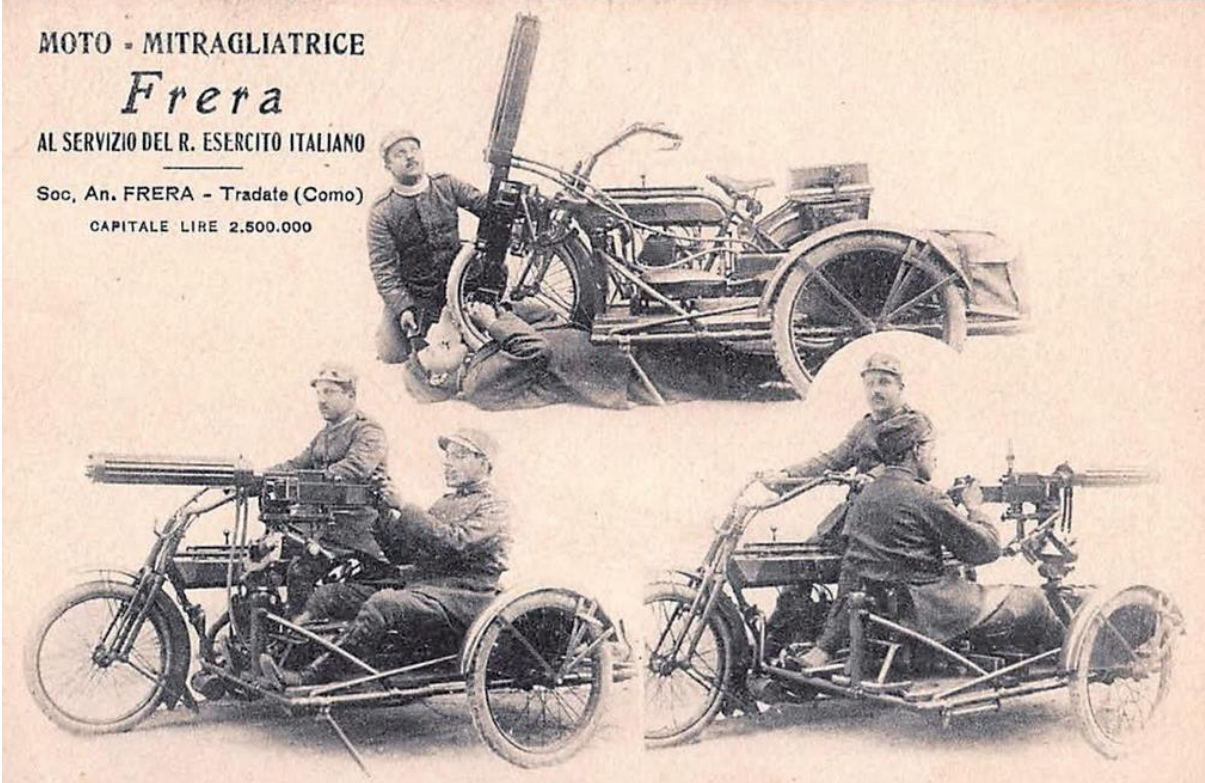
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Frera

AL SERVIZIO DEL R. ESERCITO ITALIANO

Soc. An. FRERA - Tradate (Como)

CAPITALE LIRE 2.500.000



The Way Is Pointed to the Indian Rider

—to enjoy, as he alone can enjoy, the world at its best. Those places you long to visit, but which seem so far away, are little pleasure rides when you own a 1915

Indian Motorcycle

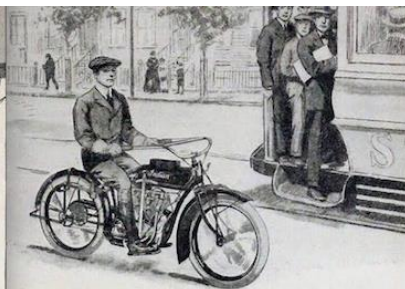
A long tour in the cool, green country, a trip in the mountains, an invigorating summer ride, a peaceful moonlight cruise—these are yours whenever you wish to take them, at your own pace. The Indian is "Master of Them All"—of all roads, under all conditions. The yield and away of the *Cradle Spring Frame* make the roughest roads comfortable riding.

For over 14 years the Indian, with its sturdiness, its mechanical perfection, its economy of operation, has predominated the motorcycle world. One, Two, and Three-Speed Models. 2,400 Indian dealers—everywhere—assure over-night service—anywhere.

Get your copy of the beautiful Indian Catalog, describing and picturing the fine big 1915 Indian Innovations.

HENDEE MANUFACTURING CO., 701 State Street, Springfield, Mass. (Largest Motorcycle Manufacturers in the World)

Branches and Service Stations: Chicago, Dallas, Kansas City, Minneapolis, San Francisco



Doesn't this Make You Long for an Indian?

THE pleasure you get out of going to a ball game, an outing, a week-end vacation, a fishing trip, to and from work—anywhere—depends upon *how* you get there. The easiest, quickest, most comfortable way is to ride a 1915

Indian Motorcycle

That's the way to avoid hot, jostling crowds, stuffy cars, loss of time, ill-humor. Sit on an Indian and enjoy a ride that a touring car can't surpass for speed and solid comfort. The *Cradle Spring Frame* makes you forget the rough spots, for it absorbs all road vibrations.

Go where you will, when you will, on schedule time. Fill every mile with sunshine, fresh air, keen relish. Leave the hot city behind—spin into the cool, sweet open country. Get all out of life you're entitled to—on an internationally popular Indian.

Write for 1915 Catalogue, fully describing and illustrating the 9 Basic Innovations and 30 detail improvements embodied in the 1915 Indian—"Master of Them All." One, Two and Three-Speed Models.

HENDEE MANUFACTURING CO., 701 State Street, SPRINGFIELD, MASS. (Largest Motorcycle Manufacturers in the World)

Branches and Service Stations: Chicago, Dallas, Kansas City, Minneapolis, San Francisco



Enjoy Life on an Indian

ON the long stretches of the country road, over the hills and through the valleys—on the streets of the big town—every mile is a happy mile to the man who rides an

Indian Motorcycle

Ten sensational, exclusive devices maintain the 1915 superiority of the Indian. These features—found only on the Indian—are: Starter—starting from standstill; Dual Clutch Control; Cradle

Spring Frame; Vanadium Steel Construction; Indian Carburetor; Light and Horn Control Buttons in Switchboard; Magneto - Generator; Cam System; Double Brake Mechanism; Neutral Countershaft.

Each of these features means added value, best explained in detail in the big, new, 1915 Indian Catalog. They tell you why established Indian domination remains unshaken.

Hendee Manufacturing Company, 713 State Street, Springfield, Mass.

Branches and Service Stations: Chicago, Dallas, Kansas City, Minneapolis, San Francisco



Indian

THE Indian Motorcycle shares the place held only by highest type motor vehicles of all kinds. Indian riders have permanently distinguished themselves as a class that demands refinement in the machine they ride.

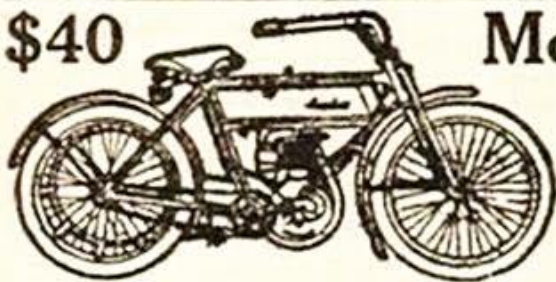
The extreme good taste of Indian design and execution has made motorcycle enthusiasts of thousands of exacting men. This, coupled with the fact that the

Indian has automobile speed, power, comfort and durability, *at much less cost*, makes the greatest motorcycle value to-day an Indian.

Be sure to visit the Indian Exhibit at the San Francisco Exposition

HENDEE MANUFACTURING CO., 701 State Street, Springfield, Mass.
(Largest Motorcycle Manufacturers in the World)

\$40



Motorcycle Bargains

Single and Twins, Hendersons, Harleys, Indians, Excelsiors, Kultures, Emblems, Thors, Popes. All makes guaranteed. A-1 shape, tuned up ready to ride. \$35 to \$100. Motorcycle tires \$3. Lamps \$5. Automobile tires \$3. Bicycles \$5. Tandems \$20. Bicycle tires \$1. Bicycles and motorcycles

at Factory Prices. Old motorcycles taken in trade. Highest prices allowed for them. Swap in yours. *Send for Catalog, Free*
DENINGER, THE PRICE CUTTER, Rochester, N. Y.

The New EXCELSIOR Military Model

The Master Motorcycle

Series 19

*Pre-eminent on the hills,
Supreme in speed,
Reliability and Endurance
proven in public tests
and private service*



Standard Equipment \$290.00 — Electrical Equipment \$320.00

In the new model is embodied all the details of motorcycle perfection that have been developed in the production of a powerful and dependable machine for Army service which simply means power and stability to meet all possible road conditions without weakness at any point and the least possible necessity of repairs or adjustment.

SOME OF THE SPECIAL FEATURES

Extra Large, Roller Bearing, Multiple Disc Clutch, with removable bearing faces.

Double Truss, Military Type Front Fork, the strongest fork ever put in a motorcycle.

Excelsior Cushion Sprocket equalizes the pull and conserves every ounce of power delivered by the motor.

Removable Center Bar permits quick and easy access to the motor and removal of cylinders without interference with any other part of the power plant.

Inclosed Clutch and Motor Drive Chain, protects these important parts from dirt and road grit.

Foot Starter and Automatic Compression Control, assure a quick and easy start always—in any kind of weather.

Tubular Steel Luggage Carrier with Steel Tool Box.

Rustproof, Military Olive Drab Finish, including hubs, spokes, etc.

See the dealer or write us for new catalog describing the Military Model, Excelsior Lightweight and Sidecar

EXCELSIOR MOTOR MFG. & SUPPLY CO., 3702 Cortland Street, CHICAGO, ILL.

A proposition worth YOUR investigation.

The Pope Motor Cycle.

For Strength, Reliability, and Speed unsurpassed.

These Frames DO NOT Collapse
and let you down.

Don't read this:

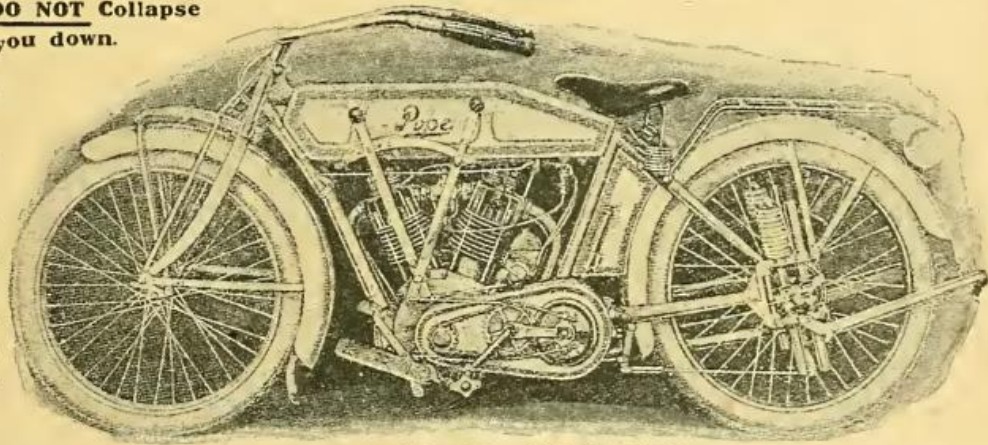
The idea was:

The finest possible
machine.

THAT idea is NOW
an accomplished
FACT.

NOTE the Rear
Springing, the
finest in the world.

It is IT.



"R. 15." THE BIG TWIN.

Send for Prices and Particulars of our Productions to

THE POPE MOTOR CYCLE AGENCY, 55, Banner Street, Golden Lane, LONDON, E.C.

A FEW LIVE AGENTS STILL WANTED.

Cyclone

JOERNS MOTOR MFG. CO.
ST. PAUL, MINN.



*The Speed Sensation
~ of 1915 ~*

MILITAIRE AUTOCYCLE

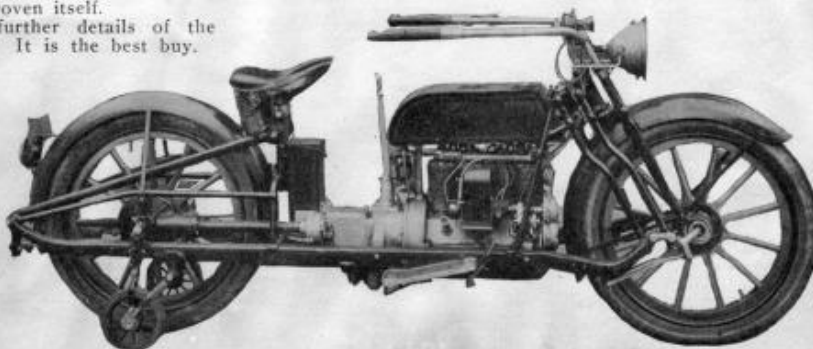
*The Runabout that Lifts Motorcycling
to a Higher Plane*

The MILITAIRE gives a new meaning to the word "MOTORCYCLE" — a new dignity. For no one can gaze upon the MILITAIRE without achieving a new respect for the two-wheeled class of power-vehicles.

The MILITAIRE is the **highest development of the motorcycle**. It is four-cylinder, because multiple-cylinder power means power-smoothness. It has three speeds and reverse, because the lack of this feature in the ordinary motorcycle stunted the growth of its popularity. It has idler wheels to remove the last vestige of labor from handling the MILITAIRE. Its channel steel frame has already proven itself.

Write for further details of the MILITAIRE. It is the best buy.

**Militaire
Autocycle
Co.**
(of America)



**Buffalo,
New
York**

SPECIFICATIONS

Four cylinder unit power plant.
11½ H. P., S. A. E. rating.
Selective sliding gear transmission,
3 speeds and reverse, annular
ball bearings. Dry plate clutch.
Shaft drive with two universals.
Artillery wheels mounted on an-
nular ball bearings.
Patented engine starter.
Pivoted front axle (patented).
Pressed channel steel frame.
Cantilever springs.
Wheelbase 65". Tire 28 x 3".
Patented Idler Wheels.
Highest grade equipment, includ-
ing Bosch Generator.
40 to 60 miles per gallon of gasoline.
Tire expense ¼ that of lightest cars.

The **AMERICAN
EXCELSIOR**
America's Best Auto-Cycle



"Some" Speed!

IN a 300 mile race at Chicago last month, the American "Excelsior"—"The Good Old X"—beat all other makes, and won in 3 hrs. 29 mins. 51 $\frac{2}{5}$ secs.—a speed of 85.71 miles per hour.

Think of the strain on the machine! A sprint of 85 m.p.h. would be wonderful enough—but to keep it up for 300 miles! It shows what the "Good Old X" is made of.

You want a machine ready for anything—which revels in tough jobs—which will never let you down—which "always makes good." Come and inspect the "Good Old X"—the American Excelsior.

Stewart Motorcycle Speedometer

Double the pleasure of every mile you ride by putting on a Stewart Magnetic Speedometer today. Keeps right before your eyes how fast and how far you ride. Absolutely accurate; dependable and beautiful. Proves your actual speed; often saving arrest. Guards you against recklessness. Trip and season odometers also enable you to figure cost per mile and how to run your machine cheaply. The Stewart **Rigid-tube Front-wheel Drive** cannot be affected by jarring and bumps from roughest riding. Proved most popular and dependable by thousands. Outlasts your machine. Catalogue free.

\$12



Complete

The Motorcyclist's First Necessities



Protect yourself and warn others with the clear, loud, long, penetrating warning blast of the

Stewart Motorcycle Warning Signal

Easiest operated. Best and handsomest made and at the lowest price. Outlasts your machine.

\$4.75 *Makes them pay attention.*
Special brackets for all makes of motorcycles.

Write for Catalogue of
Stewart Motorcycle Accessories
Stewart-Warner Speedometer
Corporation

1906 Diversey Blvd. CHICAGO, ILL.

30 Days' Trial

— money back
if not satisfied



The "Big Guns" of Our Motorcycle Line—1915 Invincible Seven and Dreadnaught Nine



No. 1342145, Sears & Roebuck Patent 1915 Six Horse Power Single Cylinder Motorcycle, with Amal Motor, Edison
Lamp, and other accessories, complete, ready to ride, Price \$189.00
No. 1342147, "Sears & Roebuck Patent 1915 Six Horse Power Single Cylinder Motorcycle, with Amal Motor, Edison
Lamp, and other accessories, complete, ready to ride, Price 205.00

Sears Single Cylinder Magneto Model Motorcycle



No. 1342145, Sears Motorcycle, Single Cylinder Magneto Model, with Black Saddle, Fenders, and other accessories, complete, ready to ride, Price \$135.00
Patented, Licensed, made in U.S.A. — Subject to change without notice. Price subject to change without notice. Sears, Roebuck and Co., Chicago, Ill.
Page Twelve

"100 MILES for 10 cents"

Weight Only 110 lbs. Price Only \$125

Something Entirely New!

It's not a motorcycle,
and it's not a bicy-
cle, but a real *motor
bicycle*—something
that every one of
you can enjoy, and
afford to own and
maintain. It is the
lightest, simplest

and easiest-handled motor vehicle *in the
world*. It places motor travel within the
reach of thousands *for the first time*.

It appeals alike to all classes—pro-
fessional and business men, clerks,
mechanics, salesmen, farmers, students,
boys and girls.

The Miami Motor Bicycle

SAFE - SILENT - CLEAN

You can use it for a quick run to town and
back; a trip over into the next county; a run
out into the open, or to and from work every
day. It is so light you can go anywhere that a
heavier vehicle can—and it costs only ten cents
a hundred miles.

It is safe for anyone old enough to ride a
bicycle because it is so light and easily managed
—and it is far superior to a bicycle for business
or pleasure. It will take you from 4 up to 25
miles an hour—and the motor does all the work.

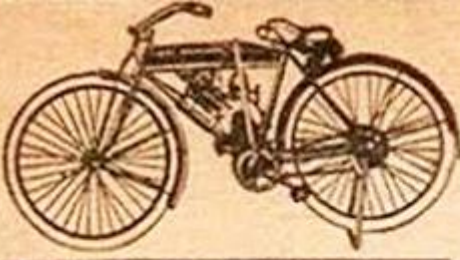
Write at Once for Free Booklet

telling all about the Miami Motor Bicycle, how simple
in construction and easy to take care of. You can
buy one from your cycle Dealer or direct from us.

THE MIAMI CYCLE & MFG. CO.

"America's Greatest Cycle Makers."

900 Mobile Ave., Middletown, Ohio.



**95 to 125
Miles on
a Gallon
of Gasoline!**

The Shaw Motorbicycle.

A high-grade, easy running, speedy motorbicycle of dependable power at a saving of from a third to a half in actual money. Equipped with 2½ H-P Motor, famous Breeze carburetor, high tension magneto. Automatic lubrication. Chain drive. Simple, efficient control at all times. Thousands in use.

Write today for prices and terms, also about the Shaw Attachment—fits any old bike.

SHAW MANUFACTURING CO.
Dept. 313 GALESBURG, KANS.

And, simply because it's smashing artwork, here's the cover of Motor Cycle Illustrated's Chicago Show number.



AGENCIES in exclusive territories are offered to progressive men who are equipped to take up the sale of one of the most unique and widely useful motor vehicles that has ever been produced. This new vehicle has many times the selling opportunities of any other form of motor vehicle, both for business and pleasure. It is new, but has been thoroughly tested by two years' road use. It is light, easily operated, easy riding and runs 125 miles on a gallon of gasoline. And its price is so low that almost everybody can afford one. The exclusive agency for the Autoped offers a wonderful opportunity for the man who wants to get into the motor vehicle business right. Visit our plant at Long Island City and see this remarkable vehicle.

**THE AMERICAN EVER READY WORKS
OF NATIONAL CARBON COMPANY**

Long Island City

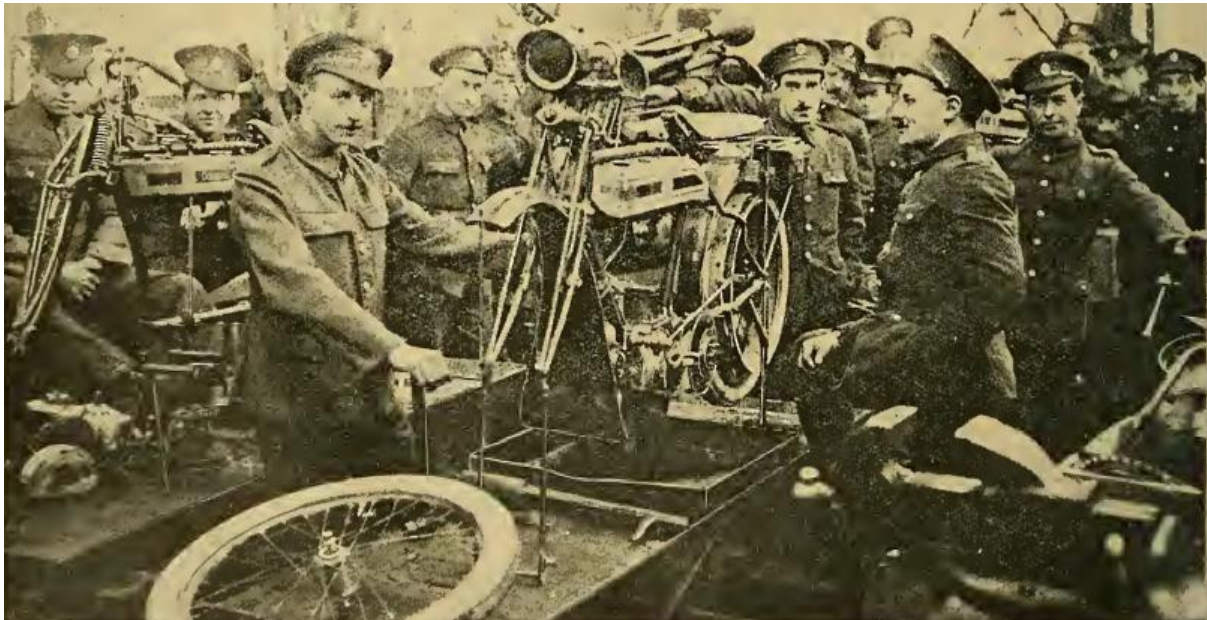
NEW YORK



1916

AMERICAN AUTHOR GEORGE FITCH wrote: "A motorcycle is a bicycle with a pandemonium attachment and is designed for the especial use of mechanical geniuses, daredevils and lunatics." He was widely quoted at the time; his bon mot is now available on a teeshirt.

IN THE ABSENCE OF AN Olympia Show a *Motor Cycle* correspondent recorded the highlights of the National Motor Cycle, Bicycle, and Accessory Show at New York's Madison Square Garden: "The show model Cleveland was enamelled pure white throughout, even to saddle, handle-bars, etc, and was then mounted in a large gold frame lined with black velvet. Just inside the frame a row of electric lights ran round the sides and were fitted with reflectors so that the rays were directed on the motor cycle...A new motorcycle was placed on the market at a very low price; it was, in fact, to be the 'Ford' of the motor cycle world. It was exhibited under the name 'Tiger Autobike' and was of very light weight and fitted with a two-stroke engine, but a close examination did not impress me very favourably...The accessory exhibits were on the whole rather a poor showing, and the sidecars leave much to be desired in the way of comfort and finish...Considerable interest was evinced in the motor cycle machine gun and motor cycle ambulance exhibited by the National Guard."



"Scene in a military motor cycle hospital: With such a vast number of machines in service under most gruelling conditions, there is always plenty of work for the army of mechanics stationed at the different ASC repair bases at home and abroad."



“Another military motor cycle repair shop, at a training centre. Artificers and RE despatch riders overhauling their Douglasses prior to their departure on active service. ”

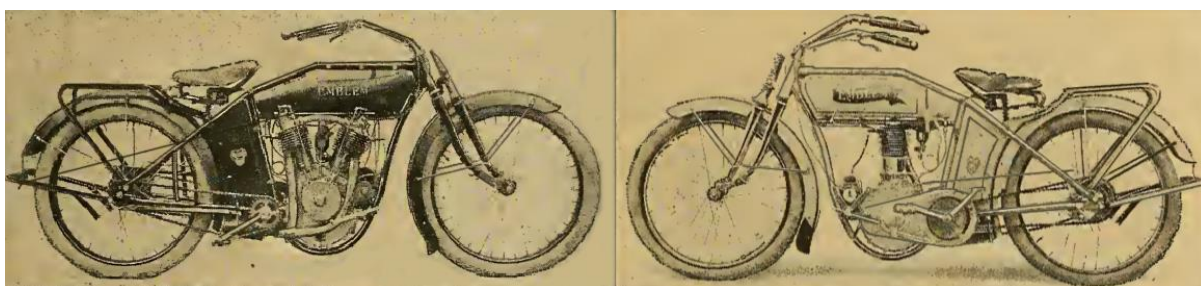
BAYERISCHE MOTOREN WERKE was established at Munich to make aircraft engines; hence the quartered blue-and-white roundel that represents a spinning prop and still adorns every BMW motorcycle.

ROY ARTLEY RODE HIS four-pot Henderson the almost 400 miles from San Francisco to Los Angeles in a record 10hr 4min.

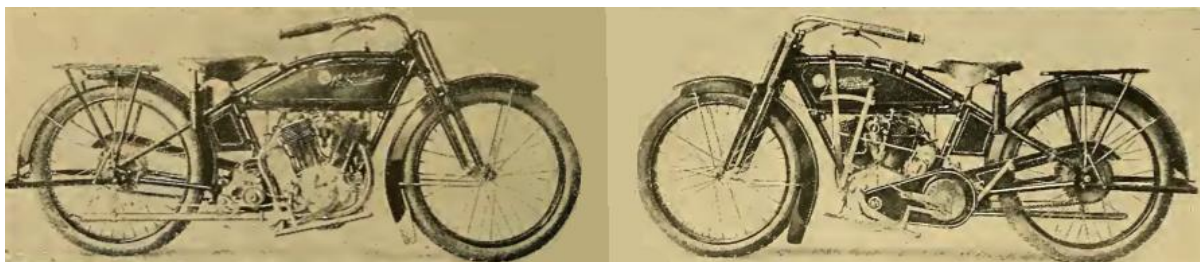
EXACTLY 37 BIKES were registered in Tokyo

“TWEE TAKT’ IS DUTCH for two-stroke. Incidentally these handy little machines are growing in favour in the Netherlands...American motor cycle manufacturers are striving their utmost to capture trade in Holland, where, prior to the war, British machines were the most popular. In the absence of British supplies, mainly due to the European conflict, most of the American makers have appointed Dutch agents and sent over supplies of machines.”

“WE ARE INFORMED THAT certain motor cyclist despatch rider sections are being dismantled and the men put into the infantry. The men concerned were greatly surprised on receiving these orders. It is obvious from this announcement that there has been no shortage of despatch riders for some months past.”



Emblem entered the British market with a 7hp 628cc single and 10hp 1,256cc V-twin, both with all-chain transmission. The first examples were single-speed with a clutch controlled by the “left twist handle” (the right-hand twistgrip controlled the throttle) but a three-speed counter-shaft gearbox was promised, as was a Remy electric lighting system. Exports of American bikes rose from 118 in September 1914 to 1,683 a year later.

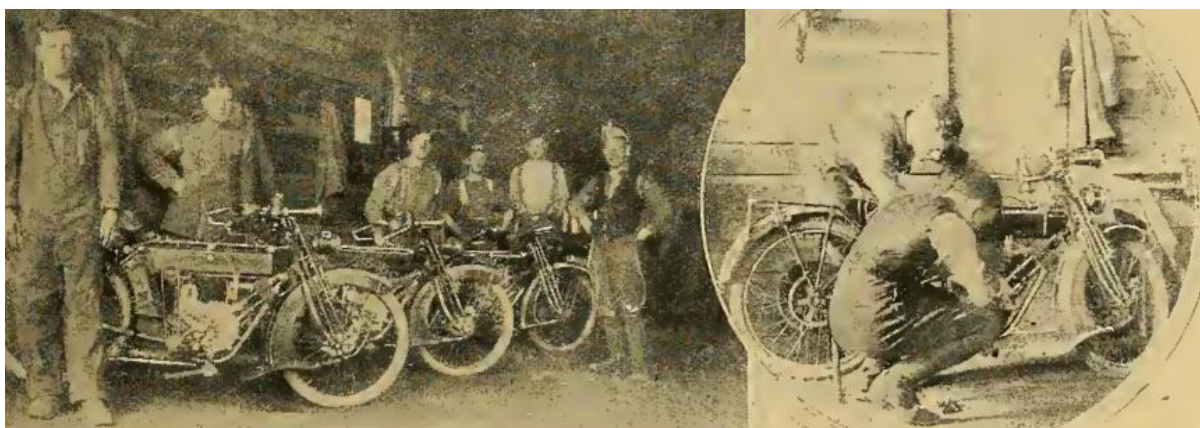


“One of the most practical American recently introduced into this country is the 8hp 1,078cc Reading Standard. The general appearance is distinctly pleasing...Contrary to the usual American practice, the engine is provided with side by side valves, and in general design closely resembles English productions. The tappets are adjustable...transmission is by chain throughout...the gear box is of the three-speed sliding type...a multi-disc clutch is fitted, which is actuated either by hand or foot, and there is an interlocking device inside the gear box, which prevents the gear lever being shifted while the clutch is in engagement...At present only one brake is fitted, but future models will be provided in addition with an internally expanding brake working inside the existing drum...The saddle position is only 30in from the ground.”



Eight Harley riders from Sheffield took a run to the Peak District where they all made a clean ascent of Winnats Pass, which had been part of the main road to Buxton but had been downgraded to a footpath. “It is a very tough proposition both as regards gradient and surface. The latter consists mainly of loose stones, and it is a credit to any machine to make a clean ascent.” One rider made the climb with two passengers.

“EXTRACT FROM A SUNDAY NEWSPAPER: ‘The engagement was announced yesterday of Miss Margaret Elinor Kingsborough, the only lady despatch rider in the British Army, her fiance being Dr Cody, assistant surgeon. Indian Medical Service. Miss Kingsborough is the only daughter of the Rev Thos Kings borough, rector of Kildalton. County Armagh. When the Ulster Volunteer Force was being organised Miss Kingsborough, who is an accomplished motor cyclist, offered her services, and, being accepted, performed several daring feats throughout Ireland and across the Channel.’”



“P&Ms on war service: These two photographs were taken at the Brooklands aeroplane sheds, and show machines belonging to the Royal Flying Corps. P&Ms are used exclusively by this section.”

MEMORABLE MUSING FROM IXION... “A Tale without a Moral: Second Lieutenant Buggins got thrown off his gee on a very, very ‘ard, ‘igh road. Moreover, the men laughed. Moreover, just as he had neatly cut out First Lieutenant Wuggins with the very pretty barmaid at the Fox and Hounds in the neighbouring town of Sloshton, Wuggins, in most unsportsmanlike and ungentlemanly fashion, refused to contribute to his own discomfiture by taking Buggins into Sloshton on his big ‘Met’ six evenings a week. On the seventh evening, Buggins, being junior sub, was usually orderly officer. So Buggins hied him to town, and bought a motor bicycle, on which to beat all records into Sloshton, and (delirious dream) to joy-ride Miss Jenkins pillionwise. Buggins showed off his new purchase round the camp. One of the DRs, requested to pick holes, remarked that the silencer extension would get some crumpled if ‘sir’ had a left-hand side-slip. The next DR respectfully ventured the remark that the machine was as silent as a Rolls-Royce, at which Buggins swelled visibly, until the DR explained that, by reason of the aforesaid silence, ‘sir’ would probably run over somebody before the week was out. Chief artificer is consequently ordered to remove the extension pipe. He does so. After mess Buggins starts for Sloshton, his engine emitting a veritable Brooklands crackle. En route Buggins overtakes the CO riding a blood mare. Blood mare objects to Buggins’s crackle, and throws CO; CO conceives a prejudice against Buggins. Buggins is presently transferred to the third line, as result of said prejudice. First line goes to France, and is concerned in a bayonet charge against uncut wire and concealed machine guns. All officers of Buggins’s company wiped out. Buggins is safe at Sloshton, wooing Miss Jenkins nightly, in absence of Wuggins on active service. Strange but true; Buggins’s life was saved by a badly designed silencer extension pipe. This tale has no moral; it is merely a study in causation.”

MORE ENGAGING IXION PROSE without such a sting in the tail... “One of the Mighty Fallen: The other day I ran across AE Catt, hero of a winter six days record ride, and found him gleefully bestraddling a two-speeded baby two-stroke. He had bought it in a fit of pique, consequent upon brief ownership of a Yankee single-cylinder. Forsaking British goods reluctantly, owing to war scarcities, he fell in with one of those hopeful but muddy-brained concessionnaires, who expect to make money by supplying Englishmen with Yankee single-cylinders. I have a great respect for some Yankee twins I could name, but I gang very warily where Yankee singles are concerned. Your Yankee manufacturer does not really care a couple of splitpins for single cylinders I am not quite sure why he makes them; they are of no service in a business which is wrapped up with speed records, and I can only suppose that even in America there are a few riders who can’t afford the 7hp, and anyhow, he meditates, the British market is stupid enough

to prefer singles on the whole. So he takes a circular saw, bisects his twin, and calls it a single, with the result that you have to take two days off if you want to decarbonise. It has never dawned on the average Detroiters' brain that, though you cannot easily make the cylinders of a 7-9hp quickly detachable, it is a sinful 4hp which needs its engine dismounting from the frame for a carbon scrape. After a dose of this sort AE Catt invested in a British two-stroke, and when I saw him he was off on a long business trip."



Does

this tiddler mark the birth of the monkeybike? MH Duvauchelle, "a clever amateur mechanic and a pilot working on, the Seine Estuary, and up that river as far as Rouen" needed transport that could be manhandled on and off his steam tug. It weighed 50lb, had 20in wheels, sprung forks and its 108cc four-stroke engine developed 1hp at 2,450rpm to give a top speed of 19mph.



“A sea-bathing diversion—a fair American auto-pedding on the sands at Long Beach. The Auto-ped, an American idea, is not unknown to our readers...It is propelled by a small single-cylinder engine, and the machine illustrated will be seen to be complete with head and tail lamps and warning bell. It resembles in general outline the motor ‘Skicycle’ described and illustrated in *The Motor Cycle*.” [see below.]



Over the pond the new Autopeds were clearly seized on as stylish toys for bright young things...



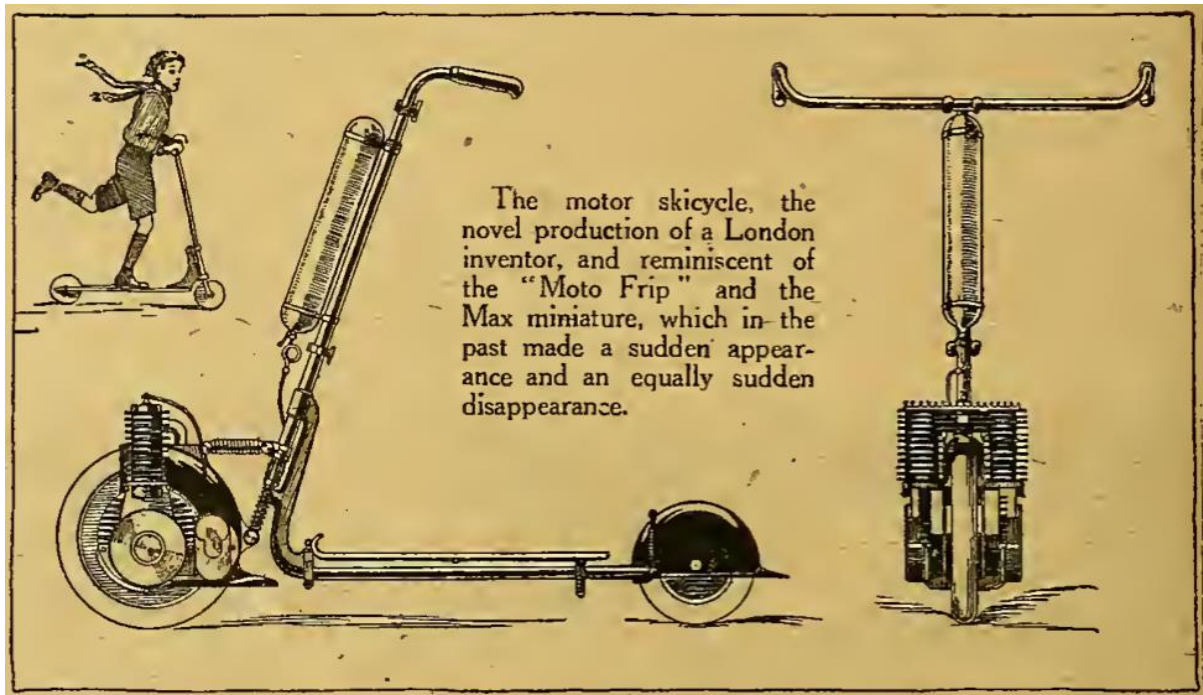
...though the US Mail quickly spotted its potential and issued Autopeds to posties.



...and

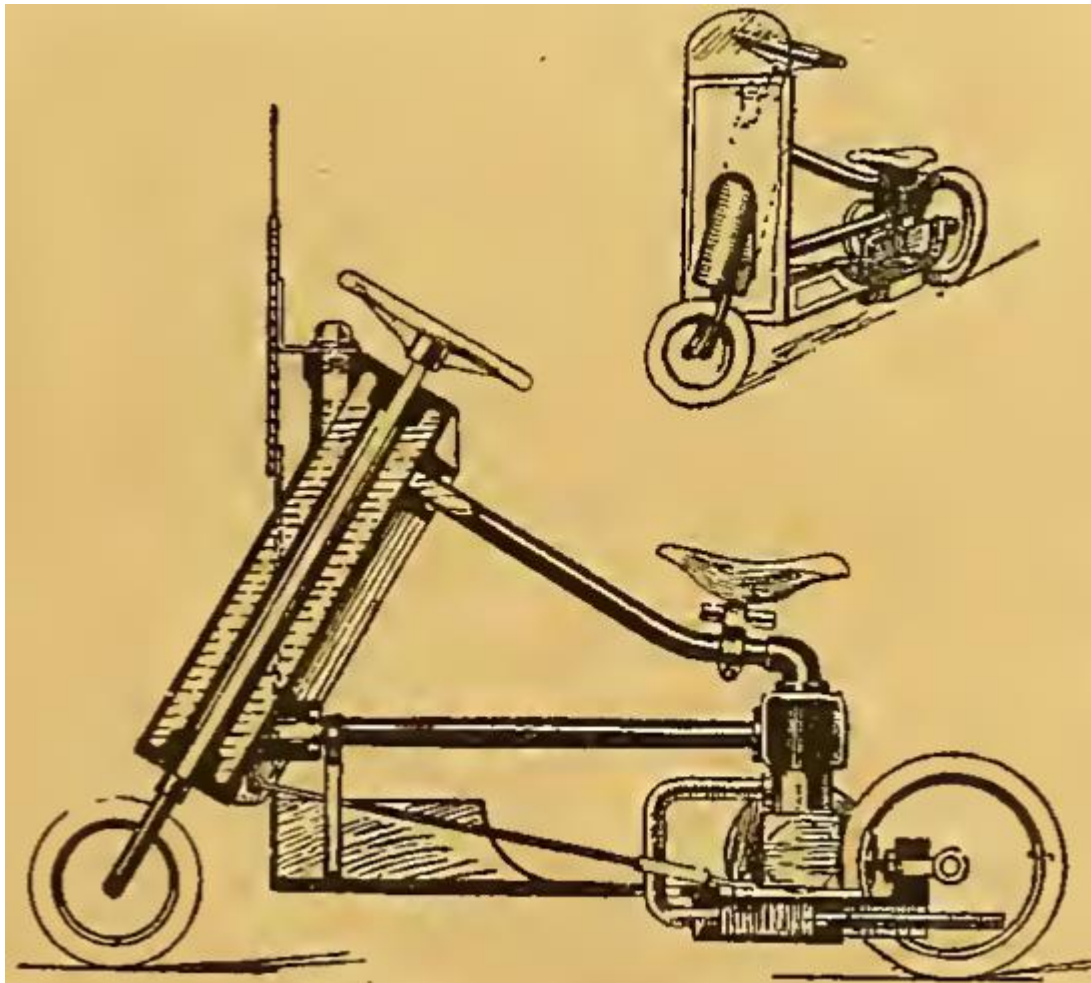
someone's made a fine job of rendering the pic in colour. PS stand-up electric scooters are appearing on UK city streets and youngsters are hurtling about the streets on them—which is just what happened in New York 100 years ago.

“THE CHILD’S SKICYCLE OR SCOOTER has long ceased to be a novelty, and has taken its place among the child’s regular playthings, but any attempt to propel the toy by motor power takes it out of the reach of the average junior, and we are afraid that this invention will not obtain the popularity its forerunner had. Mr Joseph Maina, of Brixton, London, is responsible for this novelty under patent No 7,056, 1915. He has incorporated the power unit, consisting of a twin four-stroke engine, en bloc with the front wheel. The two cylinders are placed vertically on either side of the wheel, and drive by a reducing gear on to the axle. Simultaneous firing by one plug in a combined compression space tends to simplicity. We presume the magneto is geared off the axle, but ignition, carburation, and lubrication details are not clear in the patent drawings. The principal departure from the ordinary is the endeavour to utilise the exhaust to give extra power. The escaping gases are directed through vanes in the centre of the front wheel after the manner of a turbine, the intention being to add impetus to the already driven wheel, but we believe this idea has been, experimented with before, and has proved to be a fallacy. The frame is similar to the usual skicycle, with refinements in the springing arrangements. The lower part of the frame is to be made to fold over alongside of the front wheel for easy storage. Generally, the machine may be said to be efficiently designed, with the exception of the use of the exhaust to aid propulsion, but we are very dubious of it coming into public use. It would be unreasonable, and even dangerous, to allow a juvenile free use of such a machine on the pavements, and should it be confined to the roadway, the child runs a grave risk of being killed by other faster vehicles.”



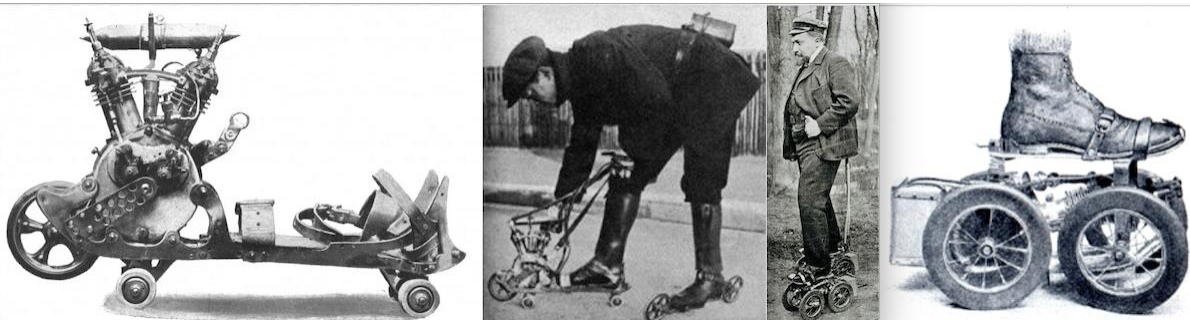
The London-built Skicycle certainly bears a similarity to the Autoped. It never made it into series production, but the original caption refers to earlier designs...

"FROM TIME TO TIME ADDITIONS to the number of 'motor scooters' or 'auto-ped cycles' make their appearance, usually emanating from USA, but the latest invention of this type is from an English source, the patentee being Mr EV Hammond, 88, Louisville Road, Balham. The water-cooling system forms the frame, a cylindrical tank or radiator supports the steering column, and the flow and return pipes, from a water-jacketed two-stroke engine, make up the triangular frame. Mudshields are provided in front, in one with the footboards, and a glass windscreen is fitted in front of the steering wheel, which is preferred to handle-bars. Truly it is a quaint contrivance, and, despite its novel features, one cannot help smiling at the prospect of such a machine ridden by a tall man. The inventor is bent upon keeping the rider warm at all costs, the saddle being clipped on to the rising hot water tube, but this is counteracted by the absence of a back mudguard; thus whilst the rider's knees and legs are being well toasted, his back will be subjected to an ever increasing poultice of cold mud. We presume petrol is the motive power, but there is no provision in the specification for the tank or oil. Springs are not forgotten, although it may appear so from the illustration, but a cunning device embodies springs inside the front forks. Friction drive on a tyre tread will slip directly wet roads are encountered, and so provision is made for pulling the back wheel into harder contact with the driving pulley when necessary. It is an exceedingly ingenious machine, but whether it will prove efficient is very doubtful, and, even so, whether members of the British public will go tobogganing about our streets and roads, somewhat after the manner of the comic trick cyclist of the music halls, is quite another matter."



“A novel ‘motor scooter’ with a water-cooled engine and friction drive. Are we soon to see staid city men tobogganing along the highway on mechanical ‘auto-Peds’? The sight would certainly be entertaining.”

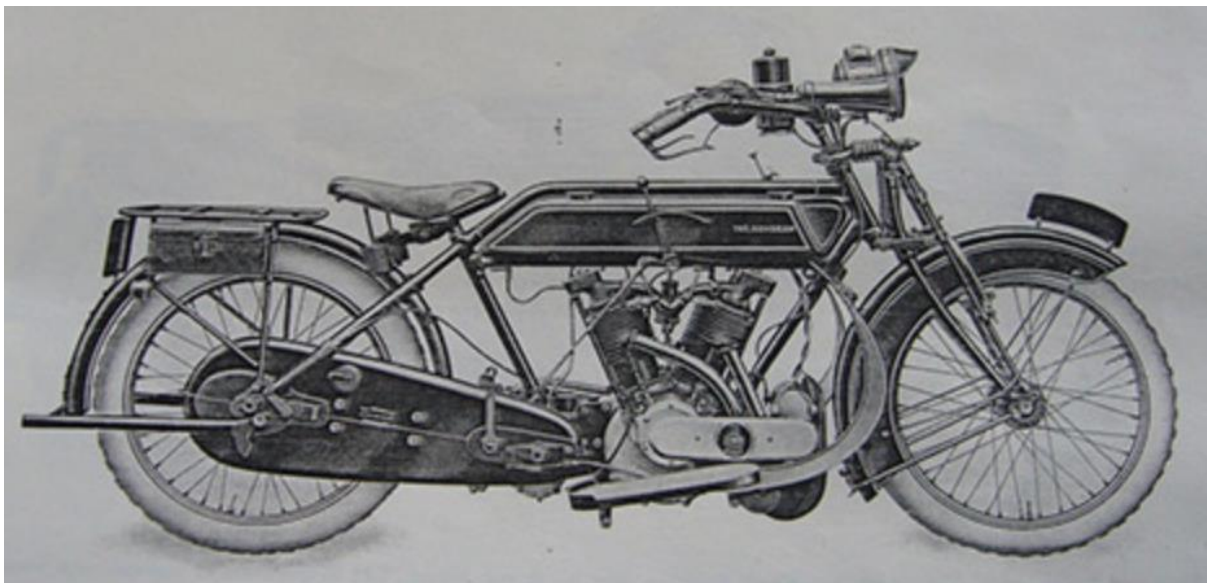
“THE MOTOR SKICYCLE: A READER suggests that the motor-propelled ‘scooter’ would be useful for busy departmental managers and others in getting about quickly from one part to another of a large works!”



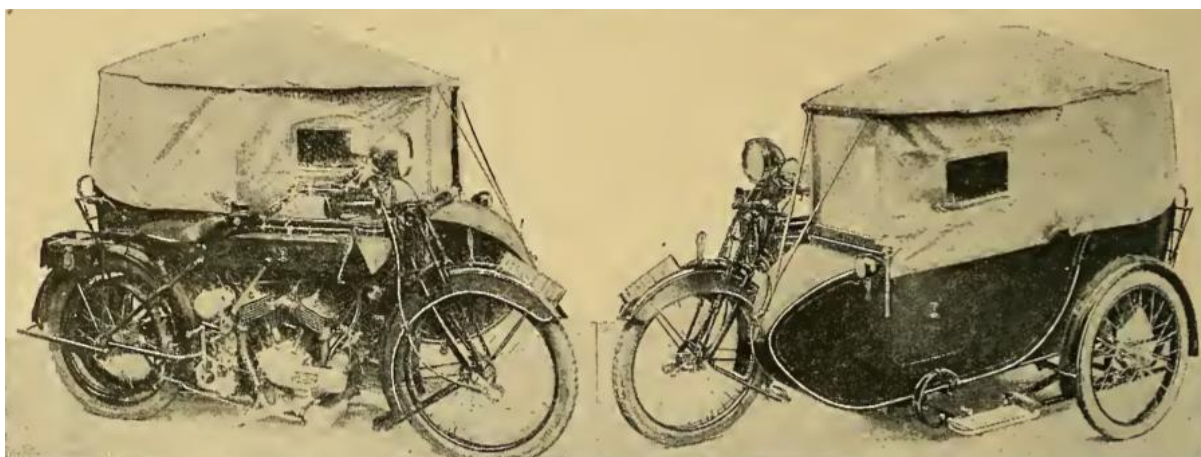
“Motor roller skates. The power plant, a miniature V-type engine, is in this case used for the right foot, the other skate being merely a trailer. It is interesting to compare this with the Auto-ped. The motor skate hails from France.” Its designer, M Mercier, claimed an output of $1\frac{1}{4}$ hp giving a top speed of 30km/h. (Right) “In view of recent illustrations in The Motor Cycle of Auto-peds and motor skicycles, the photographs reproduced are of interest. They depict a pair of motor skates, the invention of a Frenchman, who made them ten years ago.” Each skate weighed 6kg and was

powered by a four-stroke engine giving a top speed of 55 kph. The petrol tank and battery were fixed at the skater's belt. The Shah of Persia ordered three pairs.

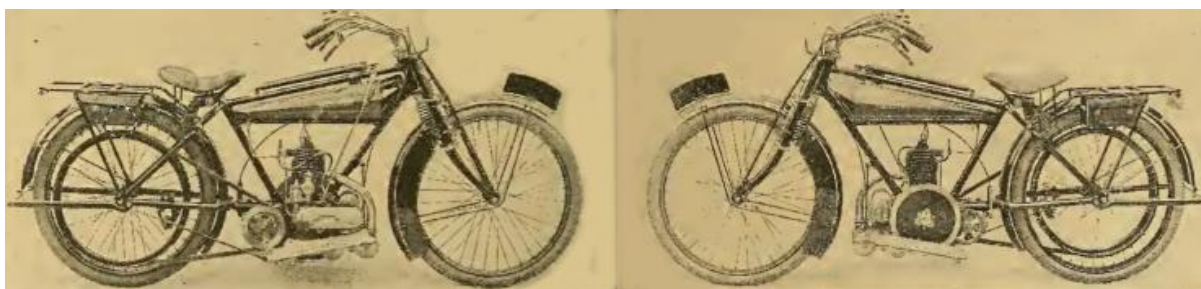
"A VISIT TO THE SUNBEAM WORKS: During a visit to the works of John Marston, Ltd, of Wolverhampton, we were able to inspect a number of Sunbeam motor cycles in the different stages of manufacture, and every facility was courteously afforded us to examine the different parts as they emerged from the different processes. Throughout, the impression conveyed to us was one of first-rate material, exquisite finish, and a care in matters of detail, which attributes in themselves explain the popularity and success of the world-renowned Sunbeam. The Sunbeam Co, like many other leading firms in the motor cycle trade, are constantly being dazzled with large orders for their products, which they are unable to accept, for the reason that a good proportion of the works is busily occupied in the manufacture of sundry munitions of war, and, apart from that, a fair percentage of the output of motor bicycles has been regularly absorbed by the Russian Government. During our tour of the works we were particularly interested in the new 8hp twin-cylinder model, and noted the fact that these engines are entirely stripped for inspection and assembled again with Sunbeam care and precision before being built into the frame. The 8hp Sunbeam is very fast on the road, and is, moreover, quiet and controllable at all speeds. We are told that 55mph is quite possible, and TC de la Hay, whose name is well known in competition circles, told us of a trip he had from London to Wolverhampton which occupied so short a time that we refrain from publishing it. The Sunbeam is not cheap, but no one would expect it to be after an examination of the finish, which is above reproach. Complete with a first-class sidecar outfit and every refinement of which the most enthusiastic sidecarist has ever dreamt, the price can be made to come out at very little short of £150."



"The 8hp twin-cylinder Sunbeam, which replaces the 6hp model of the make of 1915. It is essentially a sidecar machine de luxe."



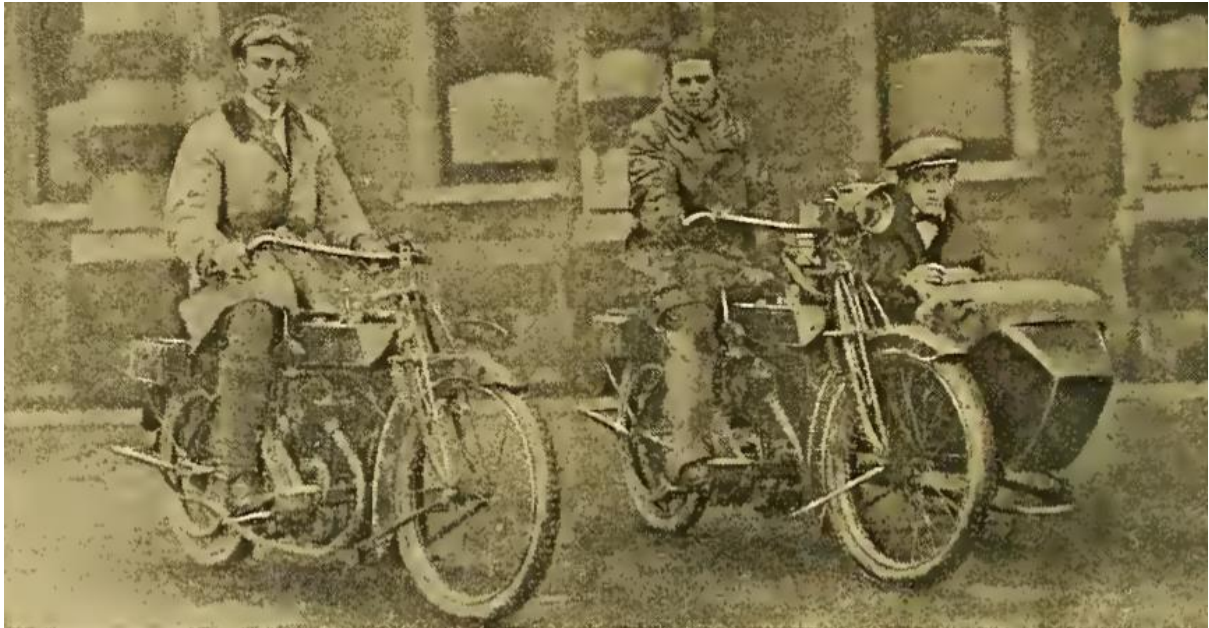
“The height of sidecar luxury: A 1916 model 8hp twin-cylinder British Excelsior, to which is attached a Milford tandem-seated sidecar capable of being completely enclosed. The outfit is equipped in a lavish manner...A foot warmer heated by the exhaust gases, placed in the floor of the front compartment, can be regulated by means of a butterfly throttle...The mudguarding is most excellently carried out, all guards having deep side valances, while to facilitate the repair of the back tyre the rear portion of the guard complete with the carrier is detachable by simply removing three wing nuts...parts which are usually bright finished in black...On the special machine we are describing a Lucas dynamo lighting outfit is installed.”



The 1916 Hobart was revamped with a sloping top tube, wedge shaped tank and black livery with gold stripes. It retained its 2½hp 269cc Villiers two-stroke lump. It came with a two-speed countershaft gearbox and footboards; a single-speeder was available, which came with footrests.

“A MOTOR CYCLIST CORPS is being formed in South Africa for service in East Africa. This will greatly please South African riders, a great number of whom have made the journey home to England at their own expense specially to enlist in the different motor cyclist sections of the British Army.”

“NUMEROUS READERS OF *THE Motor Cycle* who have crossed to the Isle of Man will be Interested to hear that the turbine steamer formerly known as the Viking is now doing yeoman service under another name in HM Navy, while another Manx boat is engaged in mine-sweeping.” Isle of Man residents were swift to point out that of the Steam Packet’s fleet of 17, 15 were in the Navy: one as a long-distance transport, six short-distance transports, the rest on patrol across the globe. The *Ramsey*, it was reported, “has already paid the penalty of her excessive pluck.”



“Successful competitors in a New Zealand trial: F Drake (3½hp New Hudson) and S Madder (3½hp New Hudson sidecar), who won their respective classes in the 260 miles trial from Dunedin to Timani and return on October 29th last. Medder put up the best all-round performance of the day.”

THE WEST AUSTRALIAN TT WAS RUN over a 150-mile triangular course based on Perth. The race was a handicap based on riders performances in previous events. The winner, in 3hr 52min 50sec, was L Perry (3½hp Rudge, 45min handicap) at an average of 38.5mph, ahead of HV Norton (2¾hp Sunbeam, 35min handicap, average 39.5mph) and CJ Lewis (7hp Indian, scratch, average 45.3mph). The next five bikes home were a Premier, a BSA, an Indian, a Triumph and another Beeza. There was also a sidecar class, won by W Franz on a 4hp BSA with his fiancée as passenger.

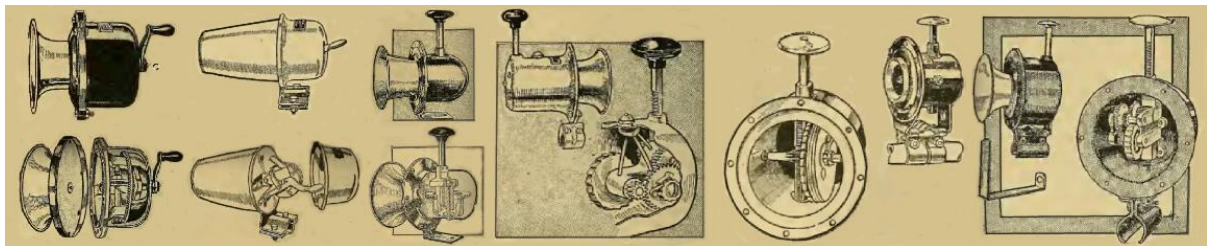


“A sidecar towing a broken down light lorry carrying 5 cwt. of goods and five men. The machine is a single-cylinder 4hp Excelsior.”

FOR THE FIRST TIME in British history the civilian population was in danger of attack from sea and air. In response headlights were restricted. Within six miles of the coast and in districts delineated by special lamp posts there was a 12 candlepower limit “dimmed by one sheet of

tissue paper”. In 74 East Coast towns and cities light restricting screens had to be fitted. The AA and Motor Union arranged to have lamp discs made for issue to their members.

“MECHORNS’ FOR SIDECARS: I apologise for the above atrocity—please puzzle it out,” Ixion wrote. “ I print it as a horrid warning against American abbreviations, and to introduce the advice of a sidecar owner who does a lot of his mileage in very heavy traffic. He has fitted his mechanical hooter to the sidecar tube, and sounds it with his foot, thus leaving both hands free for other duties. I wonder how many of the mechanical hooters on the market are strong enough to withstand the thrust of my No 10 boot, especially when I am in a petulant mood (or ‘peeved’, as the Americans would say). Anyhow, I personally conceived the same brilliant notion, but when I examined the slender shaft of the plunger of my own hooter, the angle of its stem, and the watch-like fragility of the mechanism inside the casing, I decided it had best remain hand-operated.”

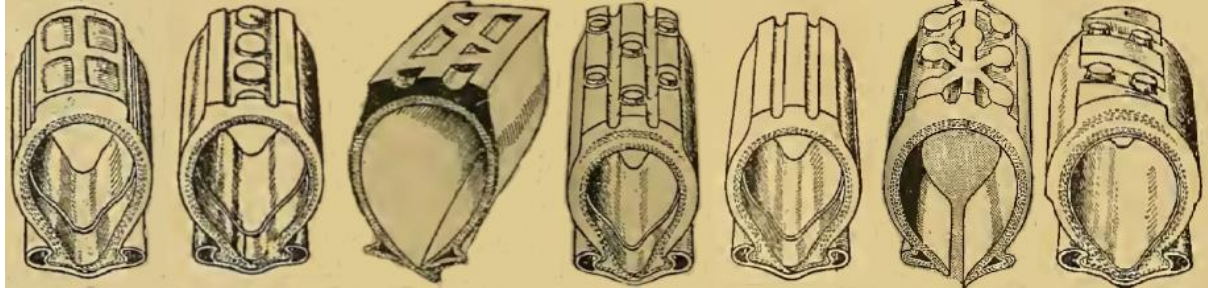


“The divergency in the design of the growingly popular mechanical warning device is not generally appreciated...” The Blue ‘Un stripped a selection of bells, horns and klaxons to see how they worked (from left): Taylor’s Mechanical Horn, Simms Mechorn; The Dunhill, Hand Klaxon, The Gloriaphone and the Stewart Mechanical Horn. And they were clearly needed: “No one can say that the noise...is calculated to promote good feeling between the motor cyclist and the pedestrian, though the latter may often be glad of its existence. He is a curious person, is the pedestrian. He hops out of the way and glares at you angrily after trying to throw himself under your front wheel, and yet, had it not been for the raucous note of the mechanical horn, he would probably have been rolled into the gutter.”



Items of motor cycle clothing, notably waders and oilskins, were in great demand at the front as the best weather- and mud-proof gear available. Here’s a selection of riding suits from the 1916 season (from left): “From Messrs Charles Cuthbe and Co, an improved form of the old-fashioned poncho, which is particularly effective in excluding the wet.” Brown Bros, the motor cycle manufacturer, made its own range of wets—“it is interesting to note that a number of these have been supplied to the Belgian Government. Gamages produced the Aquacall suits (“made of waterproof cloth instead of ordinary macintosh, and for winter use it is fleece-lined”). “Messrs Selfridge’s clothing department has taken up the question of motor cyclists’ clothing in a very practical manner.” “For many years the firm of Burberrys have made a special study of the requirements of the motor cyclist as regards clothing, and riders are now able to purchase the very latest designs in motor cycle suits built up of the renowned Burberry Gaaberdine...the

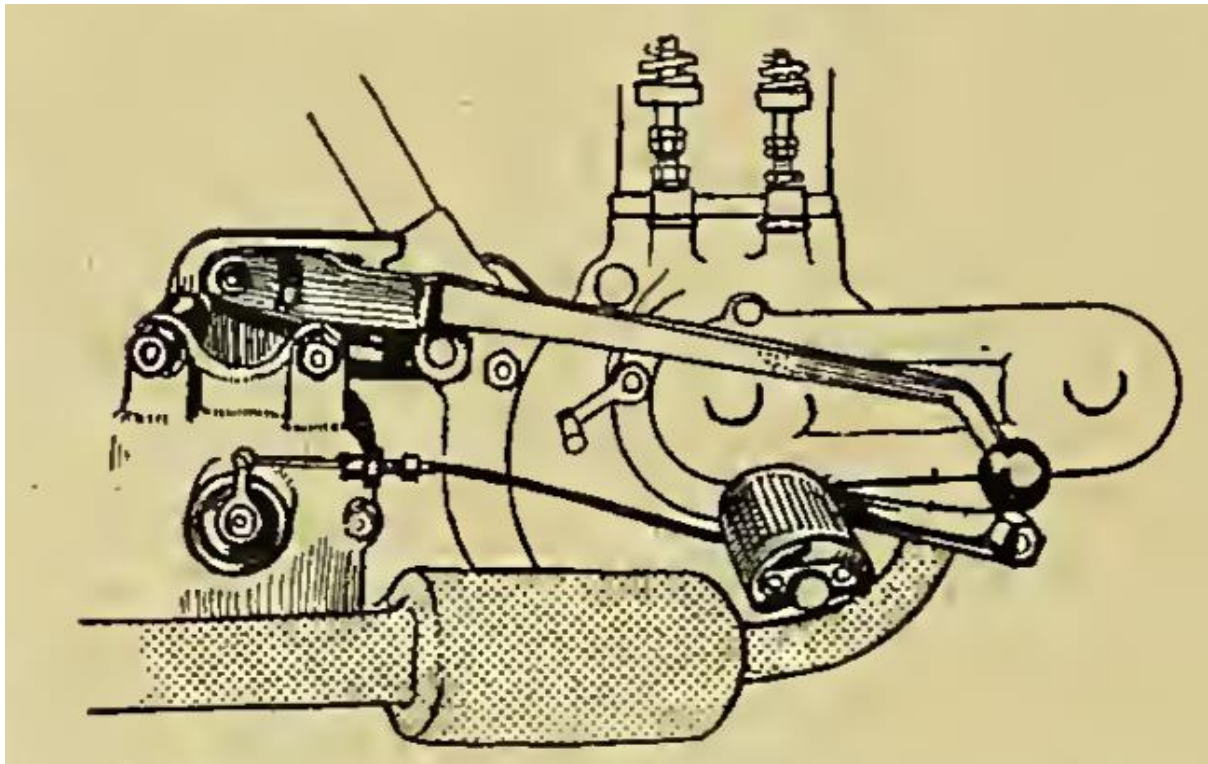
Burberry Tielockan coat...possesses two patent buckles [which are] secured with the greatest celerity." "Messrs Mosely and Smith's overall suit is made of thoroughly proofed material lined with tweed; it has four pockets." "The coat which we illustrate herewith was primarily intended for the military, but with the very smallest amount of alteration it can be made suitable for the motor cyclist. It is one of Messrs. Dunhill's best productions."



Some tyre patterns were weird and wonderful. From left: Wood-Milne 'special' cover with four layers of canvas. Stepney Spare Wheel Co ("the ribs prevent side-slip, while the studs give a good grip for the forward drive and braking action". Spencer-Moulton "has excellent wearing qualities and is very speedy". Avon India Rubber Co "combination cover suitable for machines of any horse-power". Gamage tyre with "ample thickness of rubber in the tread, while the casing is specially strengthened by many layers of the best quality canvas". Clincher De Luxe cover "should be efficient as a non-skid until worn down; the rubber has been changed from grey to a tough white quality, and: has been considerably improved in durability, since the cross ribs between the studs give a larger wearing surface". Rom Tyres combination tread "is composed of rubber bars alternating with steel studs...on wet and greasy roads steel studs make the ideal non-skid, whereas in dry weather the rubber non-skid is to be preferred".

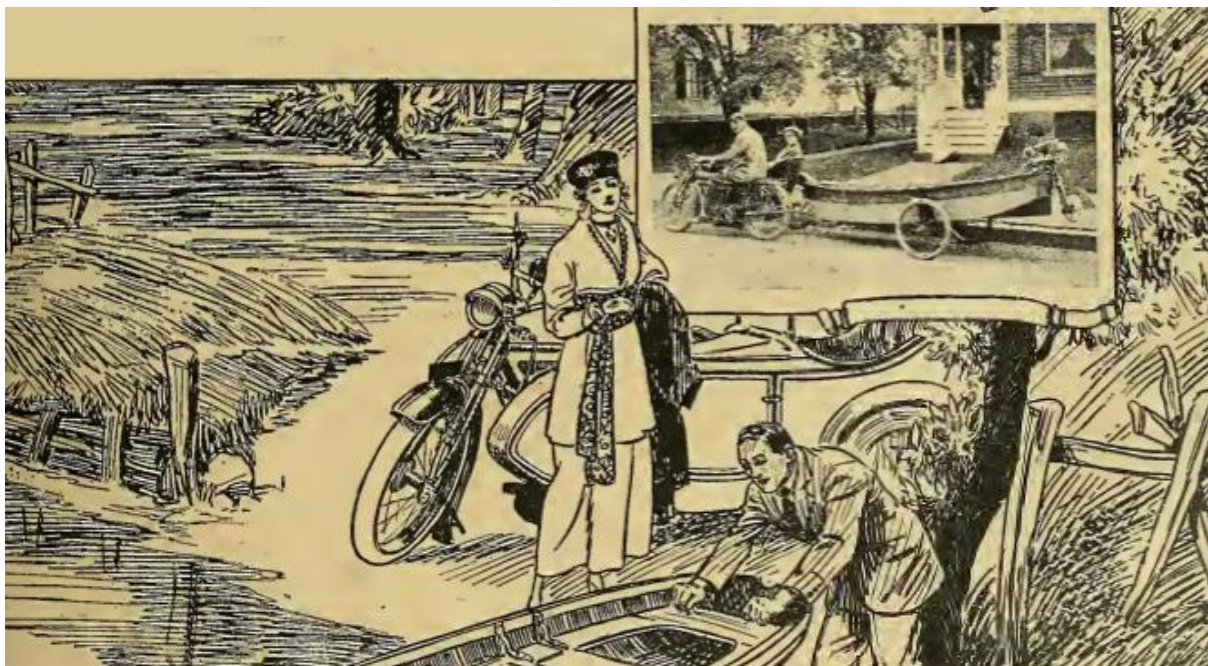
"NOW THAT COMPULSORY SERVICE is at hand, we may pause to record the services that it has been the privilege of this journal to render in the matter of voluntary recruiting...motor cyclists as a body, being mostly of a young and energetic class possessed of overflowing patriotism and enthusiasm, were destined to take a great part in the world conflict...It is a tribute to British patriotism that never an appeal has passed unanswered, whether it has been Royal Engineers, Motor Machine Gun Service, Royal Flying Corps or Army Service Corps, Motor Transport. We look back with no little satisfaction upon having passed the 6,000 mark, this number representing recruits whose applications for enlistment we have handled personally...Henceforward, our energies are to be directed more to the examination of men applying for the specialised sections of the Army in which motor cyclists figure most strongly, and certifying their proficiency."

"THE FOUR FIRMS REGULARLY supplying motor cycles to the Government, viz, Triumph, Douglas, Clyno, and Phelon & Moore, have within the last three months paid visits to the war zone, and we predict that this belated move will produce results of general benefit to the country, not to mention the convenience and safety of the motor cyclists using the machines."



“Foot-operated change-speed gear on a WD Triumph—a war zone alteration made to many Triumphs over in France to facilitate gear-changing on greasy roads.”

“EAST WINDS HAVE THEIR DRAWBACKS,” Ixion wrote, “but their first withering blasts in spring contain a secret thrill for the present scribe. After months of perilous slithering (ugh!) on a wheezy, crawly little baby two-stroke, to get out the big TT, tuned to the nick, during winter slime, to take it out knowing that the surfaces are safe and hard, to open the throttle, and eat up ten or twenty miles of road, is well worth the subsequent agony of recovering one’s circulation by a huge fire. And so say all of us!”



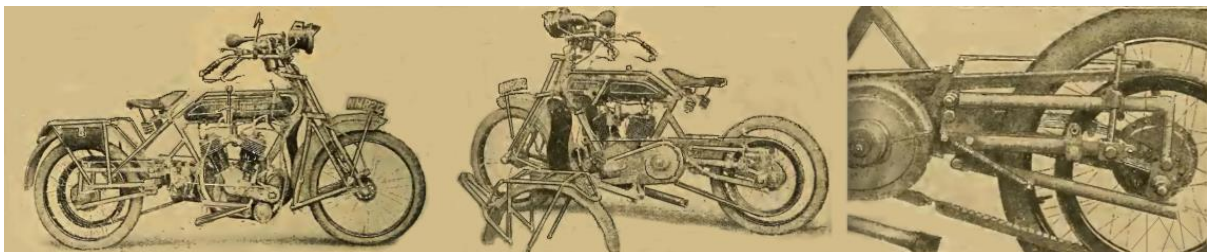
Some enthusiasts were combining the pleasure of motor cycling and boating by fitting rowing boats with lightweight outboard engines such as the Evinrude or Motogodille.

THE WAR DID NOT PUT AN end to all motor cycle competition; a score of enthusiasts headed to Cheltenham for an attempt on “two famous Gloucestershire test hills, namely. Gambles Lane, also known as Rising Sun. at the top of the Cleeve Hills, Cheltenham, and Nailsworth Ladder, near Stroud. After being accustomed to the darkened streets of London or the busy manufacturing Midland towns, the sight of the streets being a blaze of arc lamps, with many illuminated flashing signs, would have led one to suppose that ppeace had broken out’, had it not been for the number of uniformed soldiers, including several wounded, to be seen in the brilliantly lighted streets, who served to remind one constantly of the horrid truth...Among those to arrive overnight were a quartette of Harley-Davidson sidecar outfits, one of which was piloted by W Cooper, now engaged with the, company who will be remembered as the successful driver of Bradburys and Humberettes in the past. His passenger was Mr Duncan Watson, the new London director of the Harley-Davidson depot. George Brough, of Nottingham, was also present, mounted upon a nearly new 3½hp horizontal overhead valve twin Brough, Mr Whiting, the Australian designer of the Whiting spring frame, was also there with his latest model fitted with a 3½hp JAP engine...Undoubtedly the finest solo attempt [on Sunrising Hill] was that of George Brough, who came up at a tremendous speed, and had to cut out several times...A little OK showed up conspicuously, climbing steadily and surely with power in reserve...WW Moore on the experimental model all-chain drive 4hp Douglas made a clean ascent of The Ladder, a formidable ascent rising out of Nailsworth village...Moore’s first climb was a most spectacular one, as he attempted to take the hill fast, with the result that he skidded all over the track, finally striking a large bank, which threw him high into the air and caused a fall...” Despite reporting the hillclimb, The Motor Cycle made no bones about its view of Sunday competitions: “Sunday competitions to ninety per pent of motorists are unpalatable, and we have openly stated our views upon them on several different occasions. In war time in particular we must repeat our strong disapproval of them, as nothing is more likely to bring motor cycling into disrepute...we may express the hope that Sunday contests of the kind will not be continued...The sight of able-bodied men indulging in ‘sporting’ events on Sundays, particularly in war time, cannot be commended, and we should not be surprised if the Auto Cycle Union were tempted to step in and denounce events of this kind. This is an age of prohibitions, and if the ACU do not deal with the matter with a firm hand, it is quite within the bounds of possibility that the Government may go a step further and introduce a partial prohibition of private motoring.”



WW Moore made it to the top of The Ladder at the second attempt on his prototype 4hp Douglas.

“WE VERY MUCH WONDER if those motorists and motor cyclists who are special constables, and who in many cases have given their services, with their machines, to the Metropolitan police force, realise that they are being employed so far to relieve the police of their ordinary duties that they (the police) are now free to trap motorists indiscriminately. We should not be at surprised to hear of several resignations among special constables for this reason...there has been a large accession of young police recruits to the force, many of them men of military age, who would undoubtedly be doing better work in fighting for their country than skulking behind hedgerows in plain clothes, doing work as unpleasant as it is un-English.”

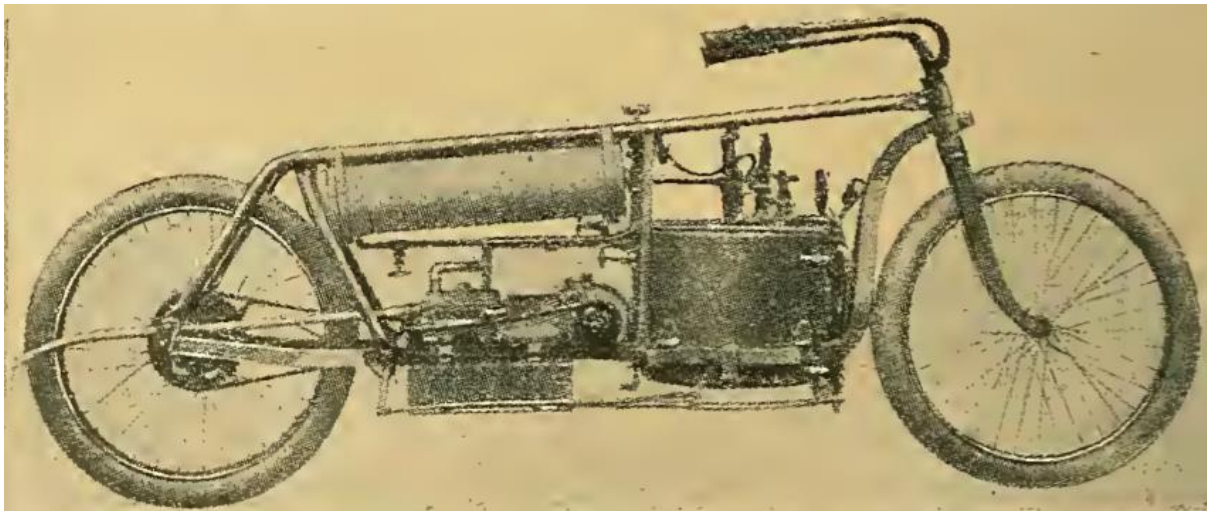


Royal Ruby developed a model powered by an 8hp JAP twin with front and rear leaf suspension. “Even under the most severe conditions,” it was claimed, “no road jolt is conveyed to the handle-bars...The model is provided with a metal- to-metal internal expanding foot brake and foot controls for the clutch, and a Jardine four-speed gear is fitted. The position of the footboards can be adjusted to suit the rider by simply loosening one nut. Both wheels are of the quick detachable variety, and many other minor points of convenience are incorporated in this luxurious model twin-cylinder side-car mount.”

FOLLOWING HIS RECORD-BREAKING runs across the USA in 1914, Erwin ‘Cannonball’ Baker took his Powerplus Indian to Australia where he set a 24-hour world road record of 1,028 miles 30 yards. En route Baker set 18 and 12-hour world records of 876 and 576 miles, and Aussie records at 200, 300, 500 and 1,000 miles, as well as three, four, five and six hours. The 1,000 miles was covered in 21hr 3min; an average of 48mph. “The only stoppage other than for food and fuel (fifty minutes) was to change a valve. There was a high wind and rain throughout, and Victorian roads, over which the run was made, are nothing to boast about, though doubtless a

comparatively good circular course was chosen.” Ivan Hart-Davis, who made a number of record-breaking End-to-End runs (see Features, 1911) called Baker’s performance “marvellous” and suggested that after the war he should have a go at the End-to-End (Harry Collier set the first 24-hour record at Canning Town in 1909 when he covered 775 miles 1,340 yards).

“THE INDIAN AGAIN: Following Baker’s records in Victoria comes a cablegram from Melbourne stating that on February 21st Jack Booth, on a 7hp Indian, broke the world’s half-mile road record, the time being 18.8sec. This works out at an average speed of 95.74mph, and it should be noted that it was made over a level road with no wind. The highest speed ever accomplished on a motor cycle at Brooklands was that of just over 92mph, by S George on an eight-valve Indian.”



“Another steam motor cycle: The long round tank attached to the top of the frame holds petrol for getting up steam, and water is carried in the square tank beneath the engine. A reverse gear is fitted, which is desirable, as the wheelbase is 6ft 3in! The weight is 350lb. Needless to say, an American is responsible for this latest addition to the ranks of ‘lightweights’”.

THE ‘LIGHTWEIGHT’ JIBE AT THE END of that caption indicates a certain tetchiness with regard to our colonial cousins across the pond. That attitude, no doubt engendered by the American isolationism that was keeping them out of the war, combined with American eagerness to take economic advantage of the war, was confirmed by the following: “KEEP OUT!”. This notice is fixed on the door of the experimental department of the Indian factory at Springfield, Mass. From which one gathers that every step is taken to keep secret until perfection all efforts for improving the Indian motor cycle. Why not a soldier with fixed bayonet—that is, provided the USA army authorities have a man to spare.” With an ever growing casualty list and the advent of conscription the Brits were clearly unimpressed by the American army’s seeming reluctance to join the fray. And if confirmation were needed of growing anti-Americanism, America’s most successful vehicle had become an object of ridicule. *The Motor Cycle* asked readers to send in their favourite Ford jokes and published dozens of them. Here’s a small selection; be warned, they are excruciating:

☛ “Say, how much do you want for your Ford car?” “£70; and I’ll throw a squirrel in with it.” “Why a squirrel?” “Well, it will be useful to run behind and pick up the nuts.”

☛ It is a case of “A short life and A-merry-can”

☛ It is said that Henry Ford has made plans to shorten the wheelbase in 1918, the reason ascribed being that he can thus get more cars into this country.

☛ A man, after numerous unsuccessful attempts to obtain the return of his Ford car which had been stolen, put an advertisement in the evening paper to this effect: "If the person who stole my Ford car last week does not return it to me by eleven o'clock to-morrow morning he will have to keep it." Next morning, on looking out of his window into the street below, he found it packed with Ford cars as far as the eye could see.

☛ Mr Henry Ford's statement about the War Loan, as is well known, has made him very popular among the Allies. It will be recalled that when the loan was floated in the States he urged Americans to have nothing to do with it, and said that he would tie a tin can on to the loan commission's tail and scuttle it home again. Why a tin can? Why not a Ford car?

☛ Henry Ford has been lately dubbed the "Pieces Maker".

☛ A Ford will go anywhere—except in Society.

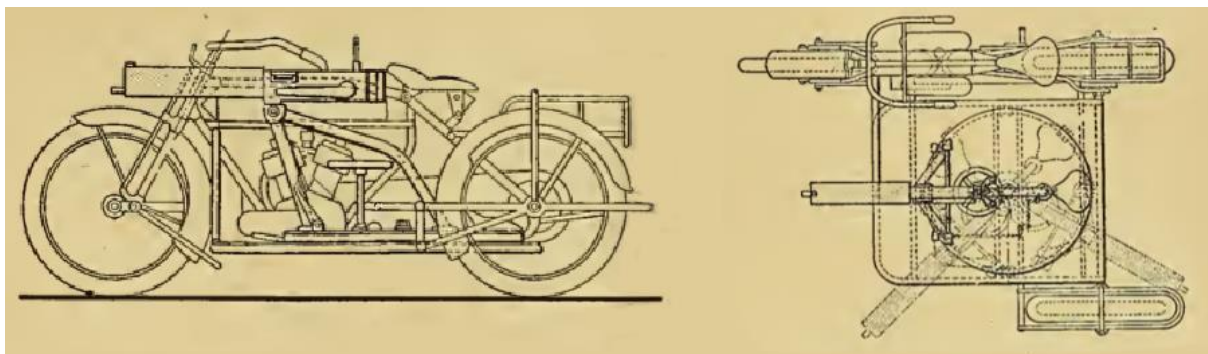
☛ A gentleman drove up on a Chinese Rolls Royce one day and happened to stop near a school playground. It was cold, and on dismounting he proceeded to spread a rug over the radiator to keep it warm. An intelligent little boy, seeing this, ran up to the owner, and exclaimed, "It's no good hiding it, guv'nor, we saw what it was."

☛ A sportsman drove up to the garage at Ascot in a Ford car. "Ten shillings," announced the attendant. "Right," said the sportsman, "it's yours," duly handing over his Ford.

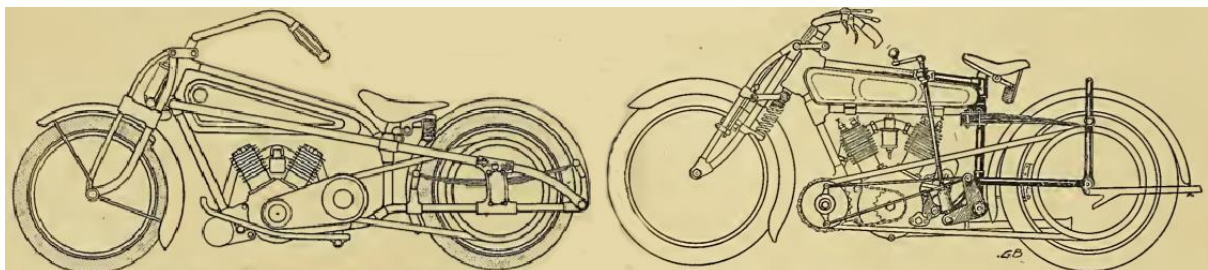
☛ A man strolled into a garage one day looking for a job, and bragged that he could tell any make of car by the sound of the exhaust. Being amused at the claim, a garage employee thought he would give him a test, and so, after blindfolding the newcomer, started up a six-cylinder Napier. "Napier!" ejaculated the blindfolded one. Correct! Next a Vauxhall was started. "Oh, that's a Vauxhall," was the correct diagnosis. At that moment a mechanic at the other end of the garage let a box of spanners fall down a long flight of steps. "Ford!" exclaimed the clever one.

☛ Why is a Ford like the first-born of a lady of means? Because it has a new rattle every day.

☛ History lesson: Mr Henry Ford, the man who popularised...walking!

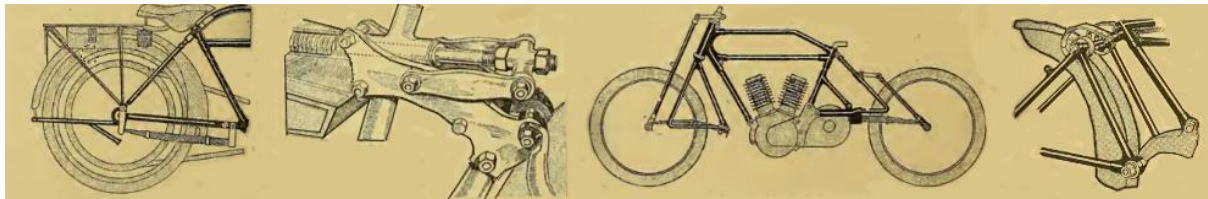


TH Tessier, the man behind Bat motor cycles, patented a sidecar machine gun mounting that allowed the gunner to rotate with his gun on a circular platform "by merely rotating the hand wheel to the required extent".

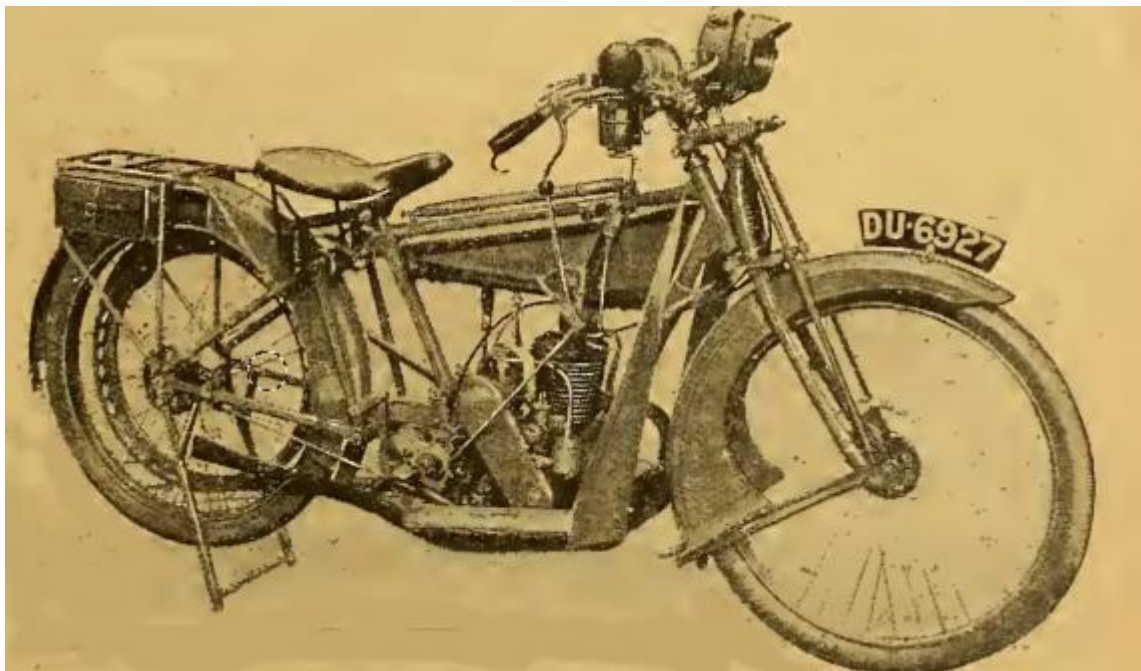


Two enthusiasts came up with designs for rear suspension: (Left) TG Kershaw went with semi-

elliptic springs; Norman Forster tackled the more complicated task of rear suspension on a Zenith Gradua.



Three more spring frames (from the left): “A method of adapting leaf springs. They are supported from the lower end of the back bar of the frame, the other end being connected with the back-stays. This system is patented by Mr S Thompson, of Bangor. A novel method of the plunger system of rear spring, the resisting coil extending inside the top tube as far as the steering head. Mr CE Palmer, of Radstock, is the patentee. A completely sprung frame by Mr GE Rigby, of the firm manufacturing the Royal Ruby motor cycle, consisting of laminated springs, and used both for rear and fore springing of the machine. An effective design of coiled leaf springs as adopted on the new Allon two-stroke motor cycle...During the last two and half years no less than [spring frame] ninety-two designs have been published in these columns.”



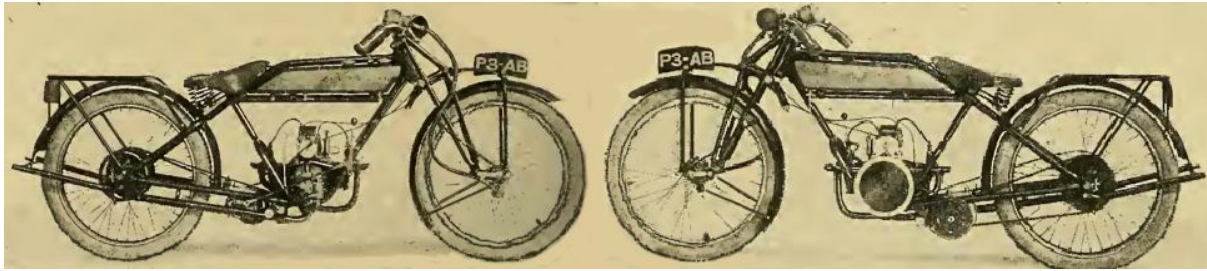
“A

fine example of a British two-stroke design—the new Allon de Luxe, with spring frame and special mudguarding.”

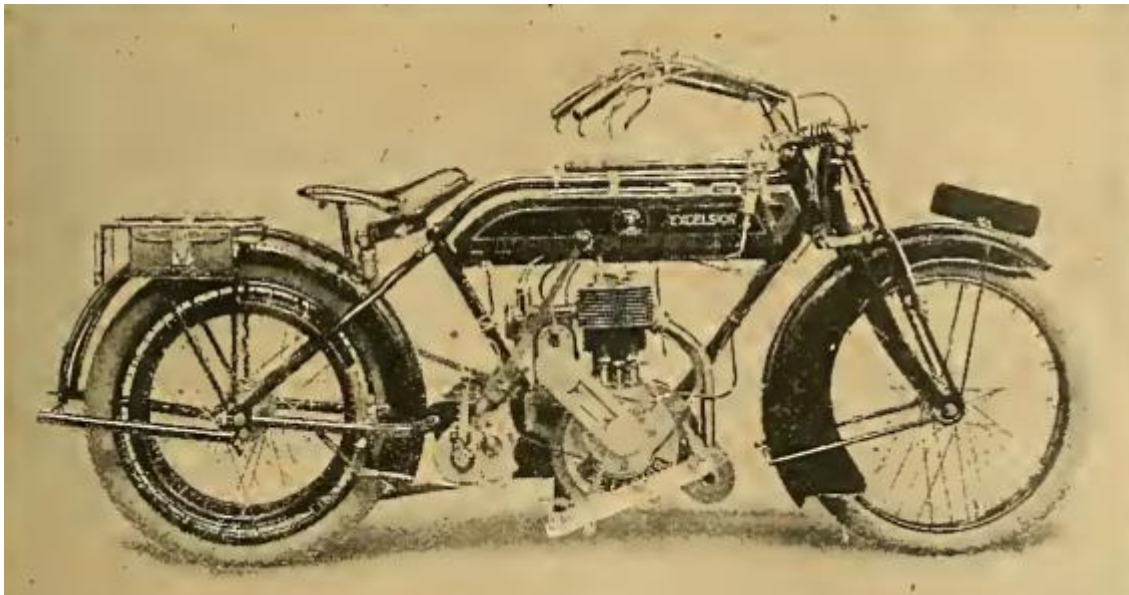


Riding a motor cycle in the Panama Canal Zone wasn't cheap; registration cost \$11 to the Canal Zone and \$2 to the Government of Panama (about £130 today). The zone had 50 miles of road with a speed limit of 8mph and a minimum speeding fine of £6 (about £365 today). Nonetheless WM Taul, who worked for the Electrical Division of the Panama Canal Commission at Balboa, was a keen motor cyclist on his Indian.

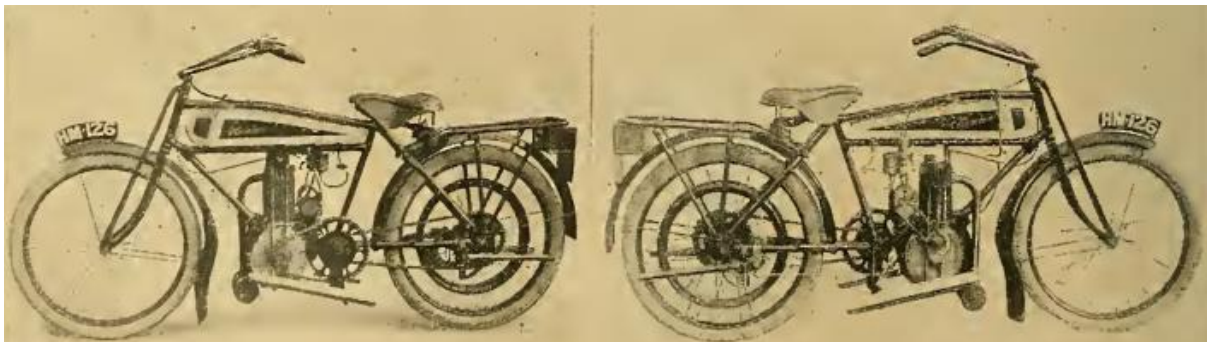
"FEW ENGINEERS HAVE SHOWN more inventive genius in the construction of motor bicycle engines than Mr Granville E Bradshaw, the works manager of ABC Motors, Ltd, Hersham, Walton-on-Thames. The little machine...is, curiously enough, the outcome of the war. It is not intended to place it upon the market at the present time, but it has been built purely as an experiment. The tiny over-square (60x40mm) 226cc engine was designed originally for the purpose of driving dynamo sets for the Government, being especially suitable for this purpose on account of its even torque and excellent balance [see Timeline, 1915]. To test the engine to destruction, and also with a view to seeing how it would behave under road conditions, it has been placed in a motor bicycle frame, and a very charming little machine has been the result." The frame and forks had been designed for a racer that was abandoned at the outbreak of the war; the whole bike weighed over 100lb but ABC reckoned that, with a purpose-built sprung frame, the bike could have weighed just 75lb—the engine, including flywheel, mag and car, weighed 27lb, developing 4½hp at 4,500rpm. Top speed was said to be 48mph. "We took the machine out for a short run, and found it delightfully smooth running, being even better balanced than the 500cc...it took quite a steep hill on top gear with ease. At the present moment an Albion two-speed gear is fitted, and with a view to testing the smoothness of the engine the chain drive is solid—that is to say, no transmission shock absorber is incorporated...we should never have thought it the case when actually riding the machine."



ABC's 226cc lightweight was rated at 2½hp but actually produced 4½hp at 4,500rpm.



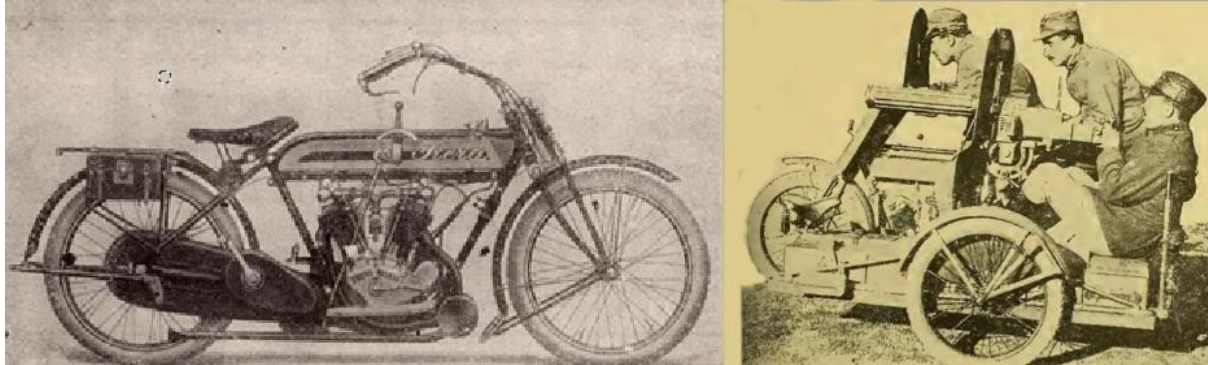
“The 1916 4½hp 650cc Excelsior, with countershaft three-speed gear. This type of machine will appeal to those desiring a powerful yet simple sidecar mount.”



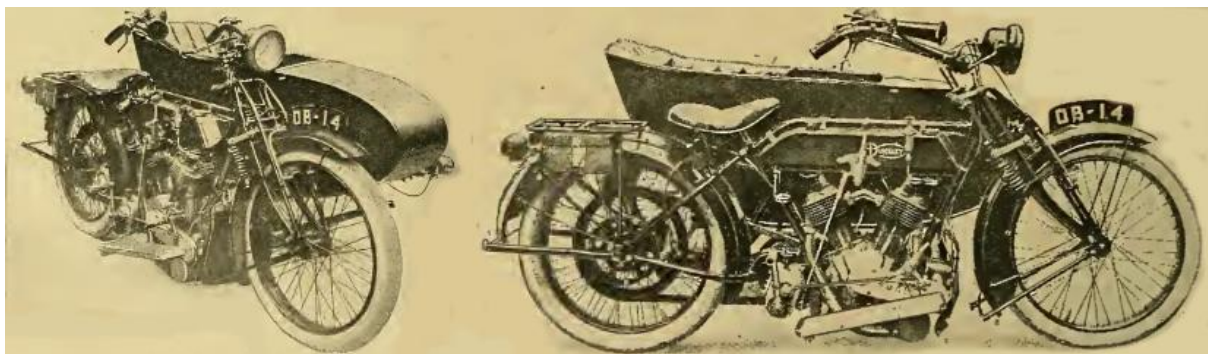
Early Humbers, as is well known, were slopers built under licence from Phelon & Moore (or, originally, Rayner & Moore but let's not be picky). This Humber, however, was rescued from a scrap heap by an enthusiast who added a downtube, cut down the frame and fabricated a magneto mount, clever chap.

“OF ALL COUNTRIES, WITH THE exception perhaps of America, there is little doubt but that in Great Britain motor cycling has been most popular, and consequently motor cycles have reached a greater degree of perfection than anywhere else. Until quite recently no one could say that a Continental machine of any kind was a thing of beauty. Now, however, things are improving, and many of the Continental makers are turning out machines on decidedly British lines. This will be noticed to a considerable degree in the photograph of the latest 8hp Frera, a machine of Italian origin...This machine is fitted with a 45° twin-cylinder engine of rather unusual size, the capacity being 1,140 c.c. The valves are situated one above the other, the

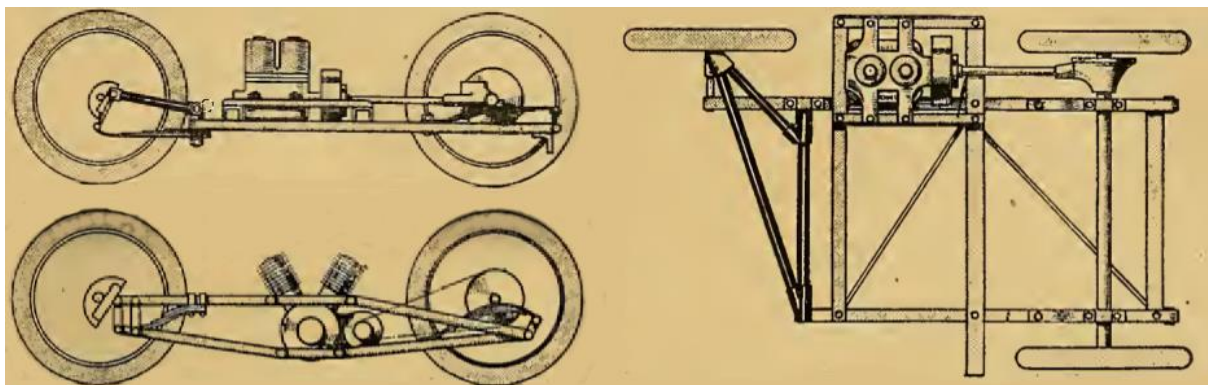
inlets being mechanically operated by long tappet rods. The inlet dome is easily detachable, complete with the valve and seating...A countershaft three-speed gear box, provided with a handle-bar controlled multi-disc clutch, is fitted. The chain transmission is neatly enclosed in oil-tight chain cases. The machine is built specially for sidecar work, and lugs for the sidecar attachment are incorporated in the frame.



"The new 8hp Frera, one of the latest Italian productions. The tendency for machines of foreign origin to follow British lines is most noticeable in this mount." The Freras were also pressed into service as machine gun carriers.

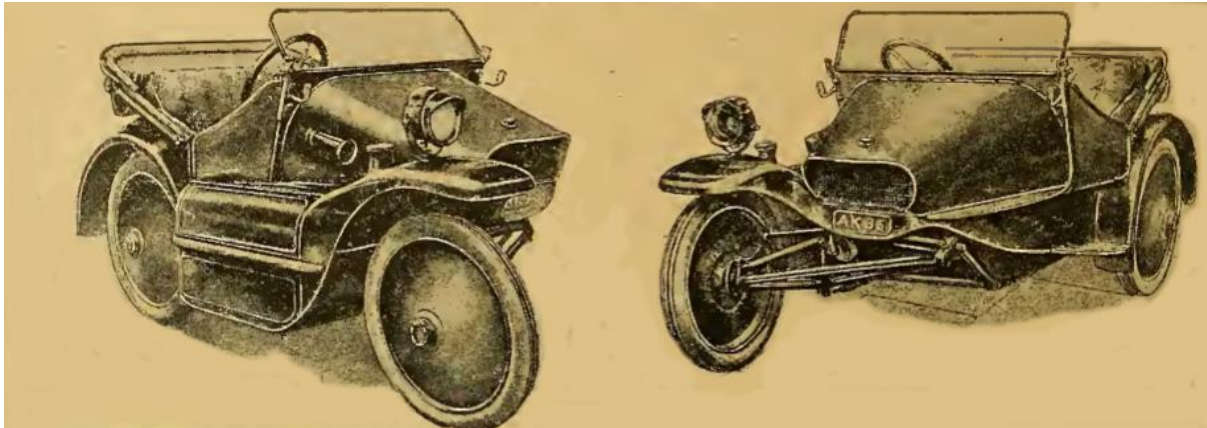


Dunkley's new passenger model was described as a medium powered twin, but it was certainly flexible as its 5hp JAP twin drove via a four-speed Jardine gearbox. Equipment included Druid forks and drum rear brake. "Obviously this is a machine for rough work as well as for ordinary touring, and one regrets that circumstances prevent its debut in something as strenuous, say, as the Scottish six days trials."

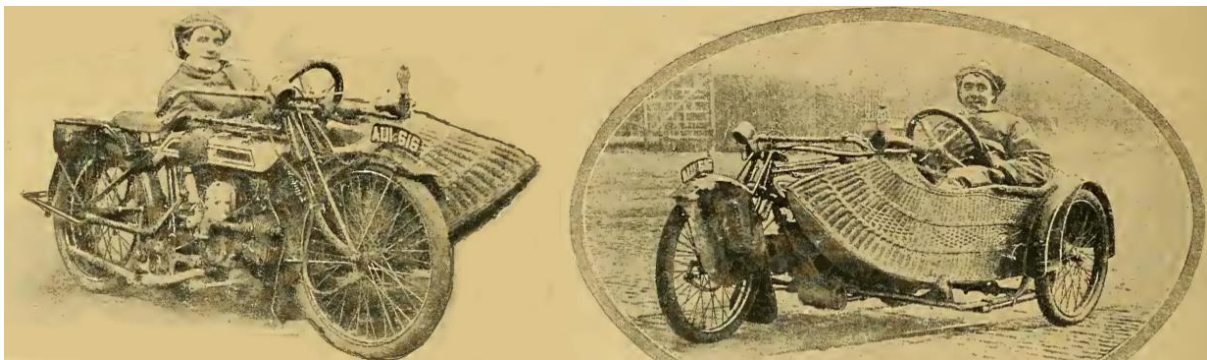


A few months after the first showing of his 'sociable sidecar' Alfred Scott patented the concept and released more details of his plans for what, in 1921, would be launched as the Scott Sociable. Instead of his successful two-stroke parallel twin Scott envisaged a 5hp in-line two stroke twin, with the option of an air-cooled four-stroke twin for them. Controlling combos from

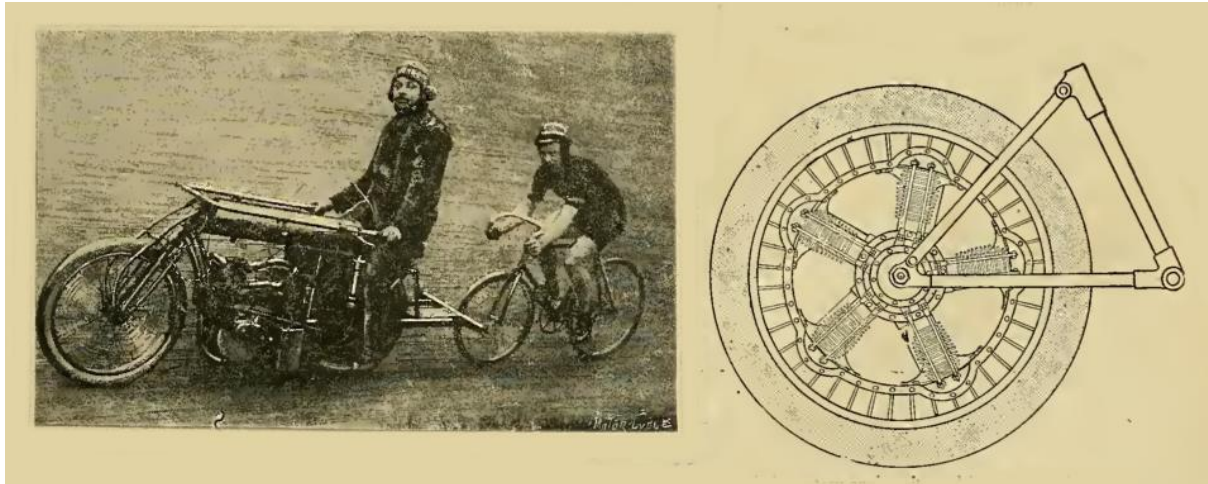
the sidecar was not a new idea, but the Sociable would be more a hybrid between combo and cycle-car.



The Scott Sociable prototype: “The complete chassis may be described as consisting of the following units: 1, Bundle of eye-headed tubes, from which the frame is assembled. 2, Swing bracket, which takes the place of spring forks. 3, Back axle, complete with three radius rods. 4, Power unit, with gear box, etc, integral. 5, Four interchangeable wheels (one spare).”



“Many attempts, resulting in varying degrees of success, have been made to arrange for the steering of a sidecar outfit from the sidecar. One of the most successful is that devised by George Brough and shown above. In this a car-type steering wheel is attached to a special bar, the other end of which is located at the top of the steering head. The brake and carburetter levers are arranged accessibly, and a comfortable driving position is the result.” When asked to convert more outfits to sidecar steering WE Brough and Co said: “The conversion carried out by us is purely a freak one for the purpose of testing out experiments under adverse climatic conditions, with more comfort than would be possible if driving from the saddle. The conversion set is not on the market.”

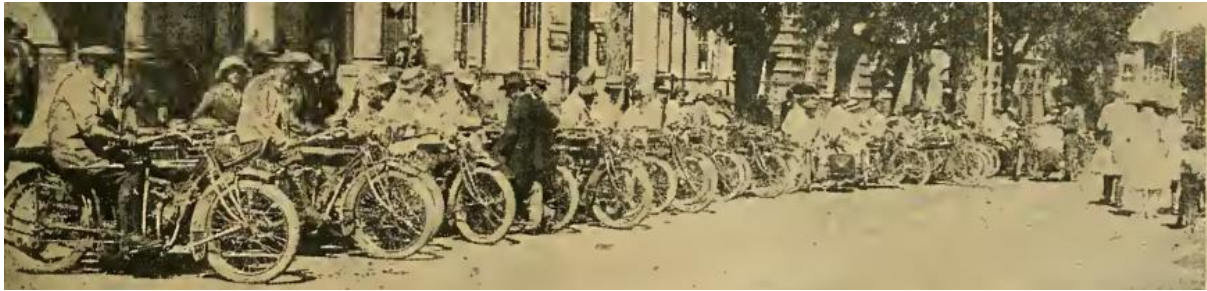


August Gaelhofs (pictured, left) wrote from Paris: "I am a constant reader of your paper, and the interest with which you have invested the important question of rotary engines for motor cycles has encouraged me to submit an effort in this direction, which I enclose, and hope it may prove interesting to your readers. I am a well-known Belgian racer and pace-maker, also the chief in a big aeroplane construction works." Maybe the Blue 'Un was also read in Germany; in 1921 Megola would launch a five-pot rotary, albeit in the front wheel.

"A HARLEY DAVIDSON MOTOR CYCLE with the rear wheel jacked up has run continuously in the showroom of a Phoenix, USA dealer for eight days and twenty-two hours. During this time the machine, according to speedometer, covered 4,310½ miles."

"I ALWAYS TIME DELIVERY OF my new machines, when possible, for a date at which I have plenty of leisure," Ixion confided. "I know that I shall have to procure a registration number; paint or 'transfer' it on to the plates, which means taking the plates off, and replacing them; fitting a speedometer—say three hours, if one does not have to write to the speedometer maker for a fresh bracket which will really fit; fitting a lamp—say an hour, etc, etc. So that—with ordinary luck—one may take the road on the third day after delivery. Judge of my amazement when the newest machine arrived already numbered, already be-lamped both fore and aft, and—miracles have not ceased—already speedometered! I was doing 50mph within an hour of signing the railway receipt. No, gentlemen! No, no, NO! Wild horses will not drag from me the name of the laudable firm, at any rate till the war is over; they are up to their necks in munition work, and the rush of orders which this small publicity would ensure, would bring down their grey hairs with sorrow to the grave. But when the war is over, you shall hear the name; and the rest of our sleepy, stupid old trade will soon file their petitions."

"HEAVY FINE FOR 'JOY-RIDING': Lieut CAB Budd, who is home on sick leave from the Front, was recently fined £10 at Eastbourne for riding a motor cycle at a dangerous speed. When he was stopped by the constable, a lady asked him if he was a despatch rider, but the motor cyclist answered 'No, I am a joy-rider.'"

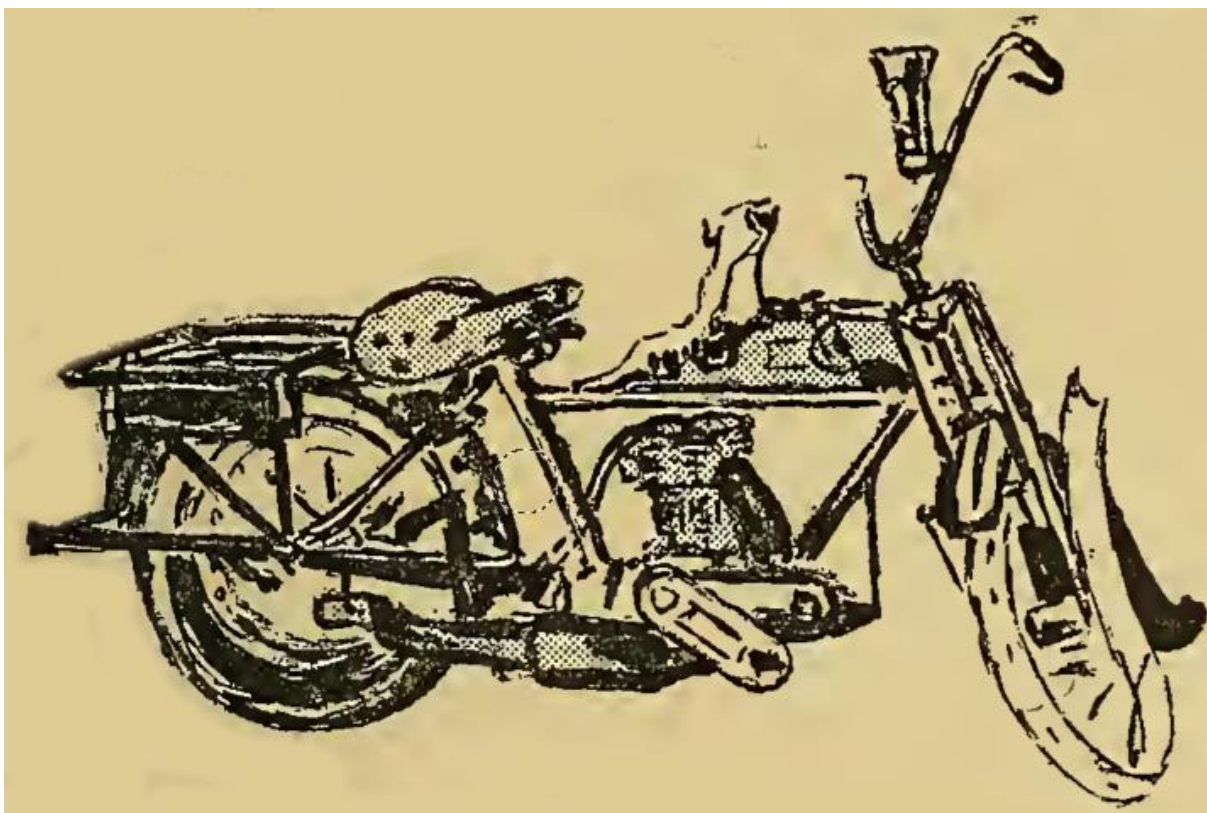


“The motor cycle in the Transvaal: Members of the Indian Motor Cycle Club photographed at the Krugersdorp Town Hall on the occasion of a picnic held last month. As The name of the club implies, all members own Indian machines, and the large number in the illustration shows the popularity of this make in Johannesburg and district.”

“DOES JOY-RIDING EXIST? The ACU is making enquiries from the various motor cycle clubs with a view to ascertaining what amount of pleasure motoring is taking place throughout the country. The object is to combat the idea, which the daily papers are endeavouring to circulate, that motor cycles are used to a great extent for joy-riding at the present time.”

“MOTOR CYCLING IN THE PHILIPPINES: Recently racing and hill-climbing contests were held at Bagnio, the capital of the Philippines, and were enjoyed by the inhabitants and natives.”

“A YOUTHFUL DESPATCH RIDER: We read that a 13 years old Jewish boy, Reuben Ginsberg, is now on his way home to Montreal after serving twelve months in a Canadian regiment. It is stated that he acted as despatch rider most of the time, and was wounded at Ypres.”



“The reproduction on this page of a damaged motor cycle is from a rough sketch made by a repairer at one of the bases in France. It was made from an actual machine that had been hit by shrapnel, and the extent of the damage may be gauged from the following: Tank in ribbons. Oil

pump cut in two. Second tube bent and top tube blown away. Down tube bent and rear stays badly damaged and separated from seat lug. Silencer peppered and extension pipe bent and cut up. Handle-bars distorted. Horn cut about. Front wheel less two-thirds of its spokes. No magneto, drive cover shrapnel punctured. Change speed lever badly damaged.”



WEARING GAS-MASKS UNDER THEIR STEEL HELMETS, AGAINST BULGAR GAS-SHELLS: BRITISH MOTOR-CYCLIST
DESPATCH-RIDERS AT SALONIKA.

This image, from Salonika, appeared in the *London Dispatch*.

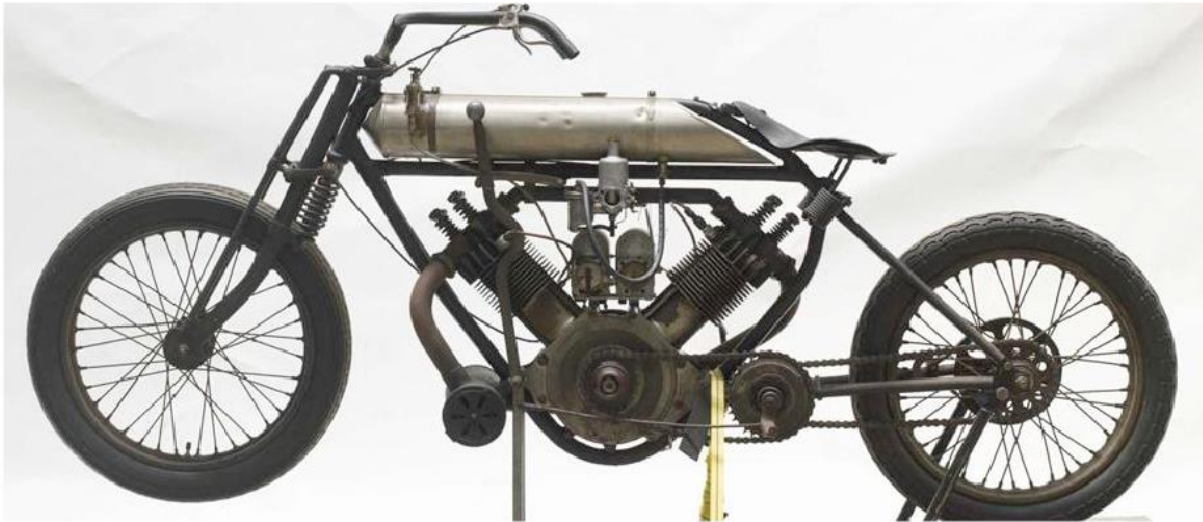
“MOTOR CYCLES ON THE ITALIAN FRONT: The mud...is inches deep and the roads full of pot-holes, which render motor cycling a most arduous and dangerous task, and several casualties amongst the despatch rides are due to falls and skids which cause collisions with other motor traffic. That is one of the reasons why the sidecar has been so largely adopted in the Italian

Army...The largest number of motor cycles are of British make...an order for 100 WD Triumphs has just been placed. There are already some Triumphs in service, besides Ridges, Ariels, Douglas, Matchless, Clyno and Indians, and the Italian machines are Stucchi, Borgo, Frera, and Bianchi. The Motosacoche, both 3 and 6hp are largely used, the latter, of course, with sidecar...There are about 150 soldiers working in a most up-to-date and well-equipped workshop, where certain parts, if they cannot be supplied promptly by the makers, are made on the spot. This workshop has also started turning out some motor sleighs...the first model was fitted with an Indian 7-9hp engine...the motor service in the Italian Army...seems to be organised on business-like lines, and works with method and regularity.”

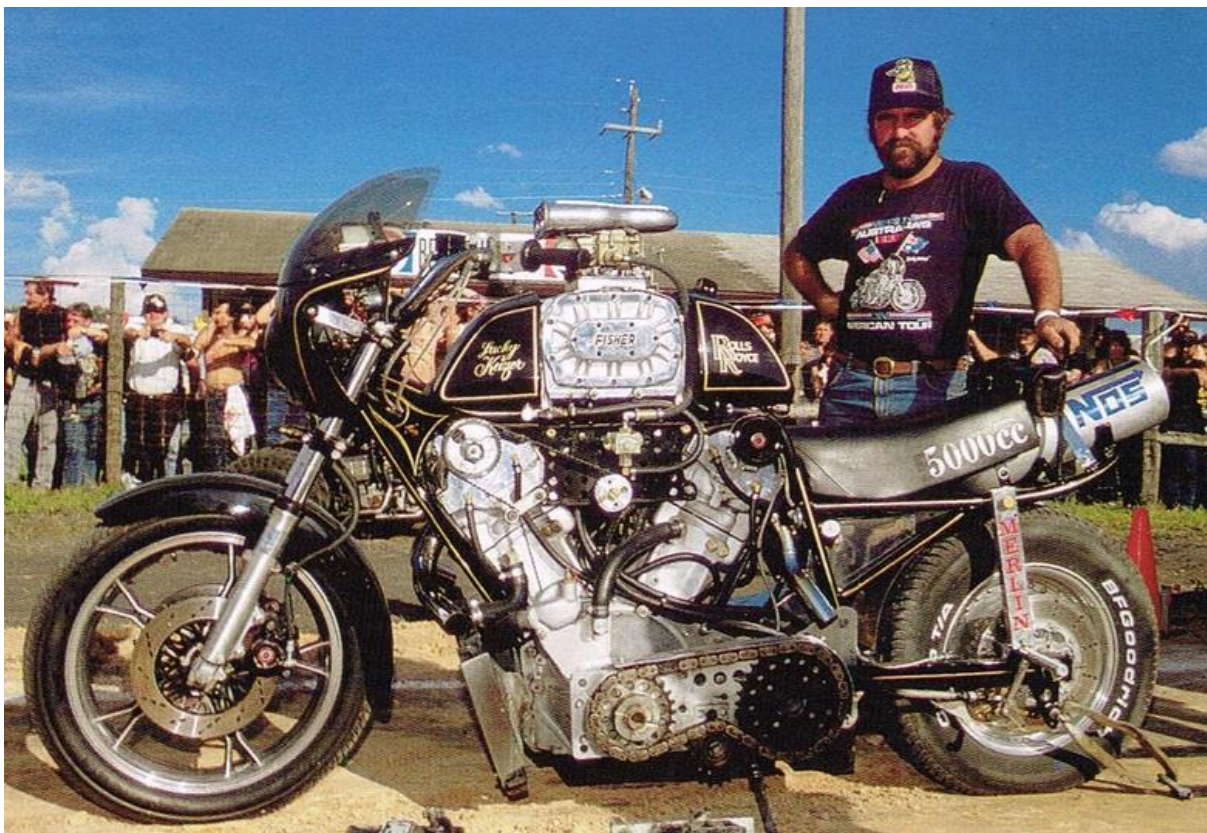


“GS Oboukhoff in uniform, and mounted on a Williamson sidecar outfit. He is a pioneer motor cyclist of Russia, and holds several records. Mr. Oboukhoff has the Singer and Williamson agency for the Moscow district, and after the war intends visiting England on business.”

“IF MOTOR CYCLING IS ENJOYED in moderation and brings health to the brain-weary city worker, it ought not to be denied him if no one suffers in consequence. And no one does. There is plenty of petrol in the country, and even if there were less than there is now the amount wasted in the services would more than suffice to allow every motor cycle in the kingdom to enjoy a few hours’ fresh air in the country during the week-end. It is argued that a brisk country walk is better for the health than a motor cycle ride. This may be so, but those who live in our large towns have to spend train or tram fares to reach a suitable starting point for their perambulations. Wherein then comes the saving? And what about the numerous delicate women who cannot walk? Are they to be denied a health-giving ride in the sidecar? The more one considers it the more one thinks that the appeal of the National War Savings Committee was, as Mr Gerald Biss says in his excellent article in the Sunday Times, the outcome of ‘gross prejudice and misconception, ill-judged and worse expressed’. Let us therefore use our motor cycles in moderation; let us buy British machines when we can get them, or if we buy those of foreign make, let us pay the extra duty with all cheerfulness, but let those who have their machines use them for health and business, but certainly in no way so as to prejudice the nation’s good.”



Melbourne dealer John Oliver, undeterred by the lack of an Aussie industry, built a 1,497cc, single-speed 85mph motor cycle which, understandably, was known simply as 'The Big Bike'. According to Oliver's son, plans were drawn up on brown paper after his dad arrived home one evening "a little the worse for an afternoon at the local hostelry". The Big Bike, with later wheels, carb and mag, survives in a museum. Oliver was born at Talbot in central Victoria in 1872; he served an apprenticeship to a wheelwright before becoming involved in the bicycle business initially in New Zealand and then in Melbourne. Oliver had previously built a number of motor cycles under the 'Planet' and 'Planet Aero' brand-names. The Big Bike' was built between 1913 and 1916. The original carb was a Zenith later replaced by a Schebler.



Fast forward 75 years and another Aussie, Lucky Keizler, cut the end off a V12 Merlin to make a 5,000cc V-twin. John Oliver would have been proud.

SISTERS AUGUSTA AND ADELINE Van Buren rode took 60 days to cross the USA from New York to San Francisco aboard their Powerplus Indians. *The Motor Cycle* remarked: "Their dress, though perhaps somewhat unconventional, is undoubtedly neat and serviceable...They encountered many difficulties, such as land-slides, desert wastes, and broken down bridges. The weather conditions were especially adverse, but, in spite of all these and the atrocious road surfaces encountered in many parts, especially, of course, during their journey across the American desert in Western Utah, their Indians brought them through in splendid style." The Americans took a less understanding view of their breeches; they were repeatedly arrested for outraging public morals. The sisters, who were descended from US president Martin Van Buren, were active in the National Preparedness Movement which was designed to get the US on a war footing to support the allies on the Western Front. One reason for the ride was to prove women could ride as well as men and would be able to serve as military dispatch riders, freeing up men for other tasks. Despite completing a ride few men could match the sisters' applications to be military dispatch riders were rejected. A colonial motorcycling magazine praised the bikes but not the sisters and described the journey as a "vacation". A newspaper accused them of using the national preparedness issue as an excuse to escape their roles as housewives and "display their feminine counters in nifty khaki and leather uniforms".



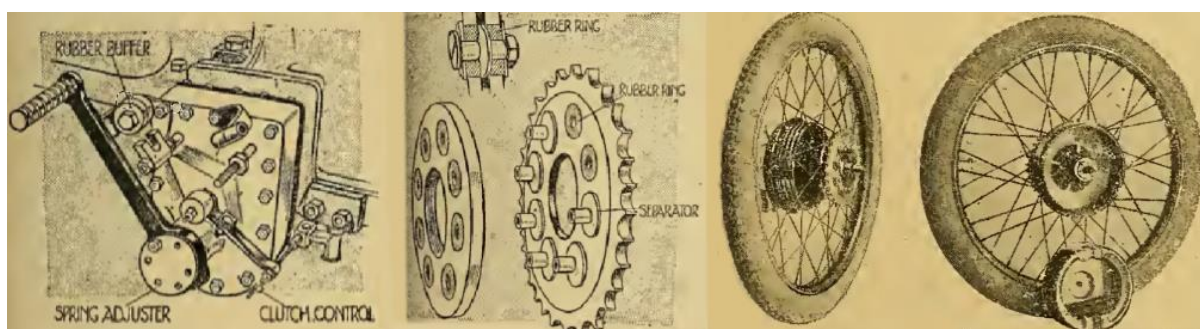
The Van Buren sisters' trans-continental run was trivialised in the press.



Here's a treat: a beautifully colourised image of the resourceful sisters, courtesy of my Aussie mate Murray (links to his excellent sites are in the main menu).

SO MANY MEMBERS OF THE Glasgow MCC had joined up that a motion was carried “nem con” (unanimously) to suspend all activities until the boys came home.

“IMPORTS OF CARS AND MOTOR CYCLES TO BE PROHIBITED: It will come as no surprise to those readers who have closely watched the course of events to learn that the British Government has decided to place a ban upon the importation of motor cars for private uses. The term ‘Motor Cars’, of course, includes motor cycles within the meaning of the Government Acts...the ruling will apply equally to all countries, including the British Dominions and Colonies.” The ban was soon extended to include tyres and tubes. However, there was a loophole. Clearly suspecting dodgy dealings *The Motor Cycle* reported: “In spite of the so-called prohibition of imported motor vehicles, 253 motor cycles came into the country last month [July]. The prohibition came into force, on paper at any rate, at the end of last March, but vehicles for which a deposit had been paid could be imported after that date. So it is to be presumed that the foregoing is the explanation. In the meanwhile it will be interesting to see which arrives first—the declaration of peace or the end of the stocks of foreign-built motor cycles on which deposit was paid by March 27th.”



ABC updated its sporty 3½hp twin (from left): “The kick starter mechanism has been entirely

enclosed...Many of the machines which have been at the Front, and have not had this protection, have suffered from kick starting gears which have been rendered completely useless owing to the excessive amount of mud they have collected." A transmission shock absorber was fitted. Also new from ABC was a hub containing two drum brakes; one controlled from the handlebars, the other by a pedal. The hub was ribbed for enhanced cooling and it was fitted with two transmission shock absorbers.

FIGURES ISSUED BY THE US Department of Commerce relating to exports from the United States of motor cycles in 1913, 1914 and 1915 show clearly the trade obtained by the Americans due to British motor cycle manufacturers being engaged on munition The numbers exported are: 1913, 4,131; 1914, 6,556; 1915, 14,836.

THE MOTOR CYCLE WAS PUBLISHING a steady stream of obituaries; allow this one to represent so many fallen riders: "We learn with extreme regret that Graham Price, the well-known private owner competitor rider of Bat motor cycles, who was attached to the Royal Flying Corps, has met his death during a fight in the air with an enemy aeroplane. Like so many brave motor cyclists, he became an expert pilot, and, like so many others, alas he has gone to swell the ever-increasing motor cyclists' roll of honour. Graham Price was a keen competition rider, and his name often figured in the principal events in 1914. In the last London to Edinburgh run he gained a gold medal for the double journey on a 5hp Bat and sidecar. Riding a similar mount solo in the Scottish Six Days he experienced bad luck, and retired on the second day; but in the English Six Days, when he again rode a solo machine, he earned a gold medal. In the early days of the war Price joined the Royal Engineers, as a despatch rider, and was in the famous retreat from Mons. It was only at the early part of this year that he obtained his commission in the RFC, and it was only a short time ago that we heard of this aviator attacking at the same time three Fokker and two other enemy aeroplanes. His parents have received a personal telegram from the King condoling with them in their loss. An officer in the Dublin Fusiliers who served for twelve months in France as a despatch rider with poor Price pays a high tribute to his qualities as a soldier. This writer considered him to be by far the most efficient despatch rider he had ever come across, and the best friend and comrade one could wish for. He had a peculiar genius as a motor cyclist. Another example of his fine character was shown by a letter he recently sent to his mother, in which he said: 'If I am killed do not grieve for me, but feel proud that you had a son to give in the country's cause.' It is sad to think that when the next important motor cycle trial is held many familiar faces will be missing."



"A big batch of 2½hp Douglas bicycles and 4hp sidecar outfits of the same make ready for delivery to the War Office. It is a most imposing array, there being live long rows of solo machines, arranged side by side and close together, and two rows of sidecars."

“SIR—I HAVE COLLECTED 200 NAMES of different makes of motor cycles. Can you tell me how many there are altogether? My favourite day in the week is Thursday, when I get The Motor Cycle. I used to get a comic paper, now I buy The Motor Cycle with my penny. My father has a Quadrant. When I am fourteen I shall have either a TT Zenith or a TT Rudge-Multi or a TT Douglas.

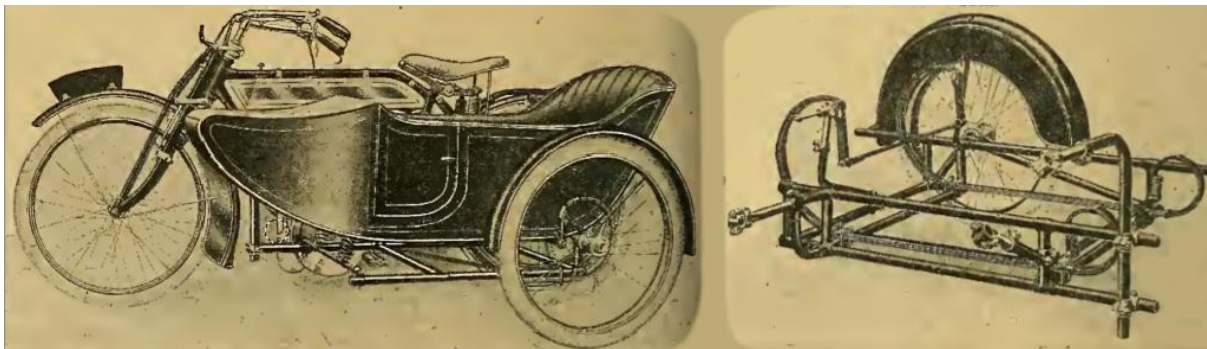
JACK WATERHOUSE (Age 7).

[There are about 300 models of motor cycles on the market, but these include the several models made by each manufacturer. If our correspondent has a list of 200 different makes he cannot have missed many. We congratulate him. —Ed.]

SIR,—CAN I SIT IN ON A FEW of the Ford stories you are listening to? Thanks! There was talk that Ford was going to paint his cars yellow in 1915 and sell them in bunches the same as bananas, but nothing came of it. That will be enough, seeing that you are receiving so many from other readers. We have had an unusually hard winter this season, just one snowstorm after another. Have ridden three American lightweights to date, and think the Indian featherweight to be the best of the lot. That one has three speeds, a clutch and a kick starter, and, much more important, a get-away that is astonishing for a two-stroker. By golly! if the local agent does not look out I shall be wearing out his demonstrator for him. Just for a trial the other day, O'Brien, of the Hendee Manufacturing Co, took me on the luggage carrier, and went out in a snowstorm. We bucked four inches of the beautiful white stuff for six miles, and the engine just purred along all the time, and we weighed 340lb at that. There was a time when I thought the carburetter controls on the handle-bars were unsightly; possibly I do still, but that is forgotten in my enthusiasm over the Amac and B&B carburetters. Some day, and it is not far distant, our riders are going to fall hard for the twin two-stroke, for that, to my mind, would be ideal; just like a Henderson four-cylinder without the weight or cost. Well. I have to save some stuff for another letter, hence the period goes right here.

ELLIOTT B HOLTON,

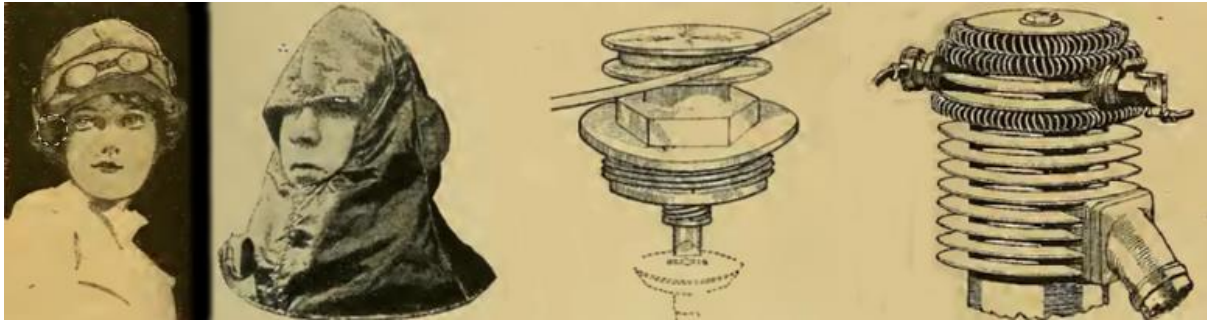
Secretary, New Jersey Motor Cycle Club,
Newark, NJ, USA.



There was a vogue for lightweight combos “for light touring and town work”. From New Comet came a tiddler fitted with a 2¾hp Peco and a two-speed box. It relied on three sidecar fittings, unlike the firm’s heavy duty four-fitting chassis which was designed to suit double-adult sidecars. A similar chassis was designed specifically for the 4hp Douglas.

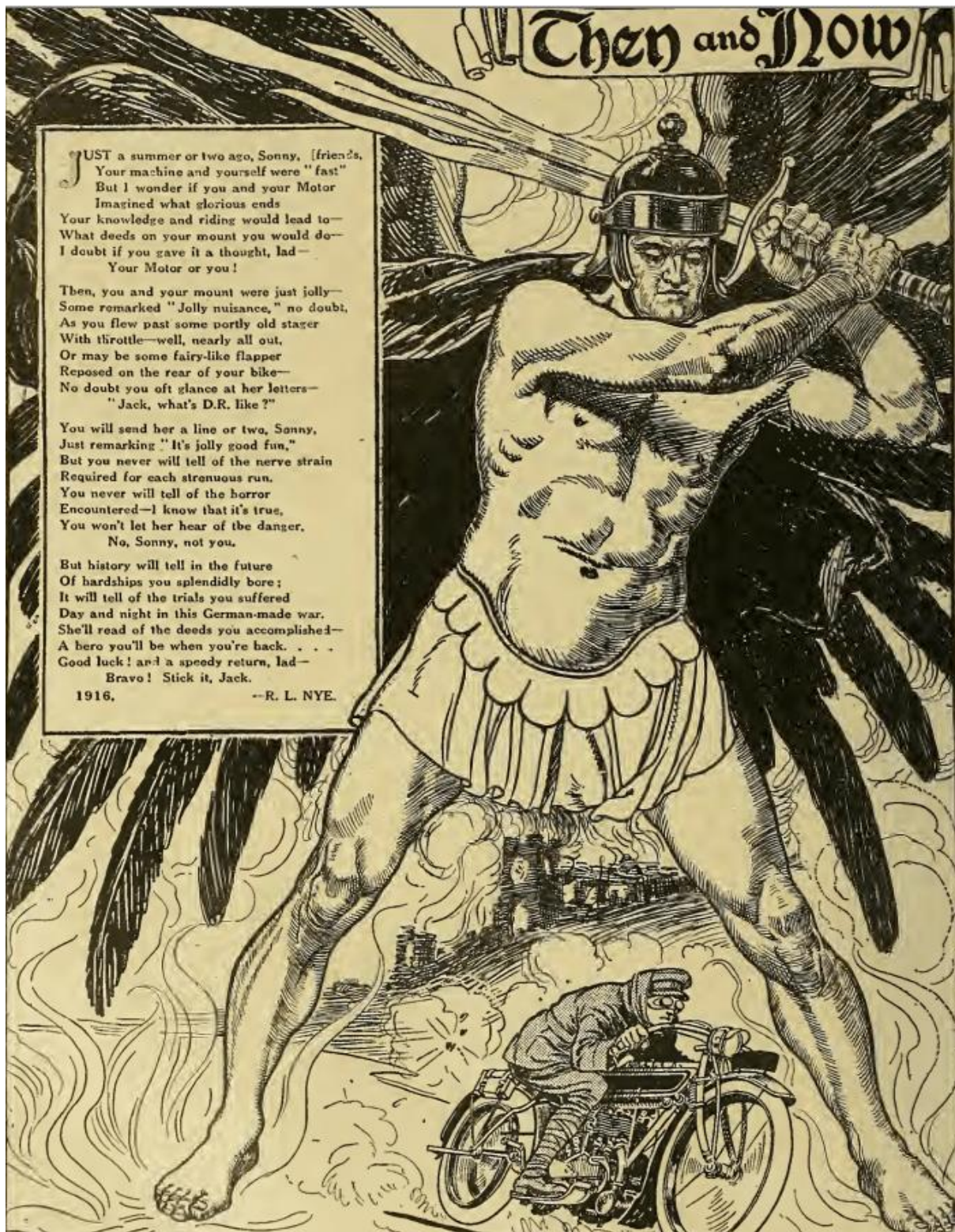
“TIME WAS—AND NOT SO LONG ago either—when I doubted “whether the average rider would forsake acetylene in the near future,” Ixion recalled. “The crudest acetylene outfit can be made to work somehow, provided water and carbide are available; and a get-you-home system is a comforting possession...But, when all is said and done, there is nothing to touch the switch-on lighting systems for convenience. I am out most nights of my life just now, and I feel the difference more than I did. Moreover, I have garnered a lot of experience of first-class electrical

outfits on sidecars and light cars; and I must confess that I should now plump for electricity every time so far as these vehicles are concerned. If, then, an electrical outfit of equal merit is soon to be offered us for solo work, nothing but price is likely to hinder its victory.”



World war didn't stop the flow of new bits and bobs for motor cyclists. From left: "A serviceable and neat hat for lady motor cyclists; this most becoming headgear is known as the Reta—a lady reader who has tried the Reta hat is most enthusiastic about the neat manner in which it left her hair." And for chaps, the Service Co offered this formidable oilskin helmet with woollen lining. Ariel came up with a valve grinder to suit its 3½hp singles and 5hp twins (mind you, riders had to supply their own string). Coolguard springs clipped round the head fins to increase the surface area and thus improve cooling.

"AN AMERICAN VERSION OF despatch riding: An American contemporary gives a very lurid account of the dangers to which DR's are exposed when on duty. The account is that of a Boston boy who served as a DR with the Allies during the fighting around Ypres, and finishes by stating that 'out of a corps of thirty-one riders, with whom Robinson started on duty at Ypres, only four were alive when he left'. This statement gives a wholly exaggerated idea of the dangers to which motor cyclist despatch riders are subjected. Of one section which left for the Front early last year, only one man has been lost. Several illustrations of Robinson are given purporting to be taken while on duty near Ypres. He is seen mounted on an Indian motor cycle which is fitted with a pillion seat. Rather an unusual type of mount for a DR."



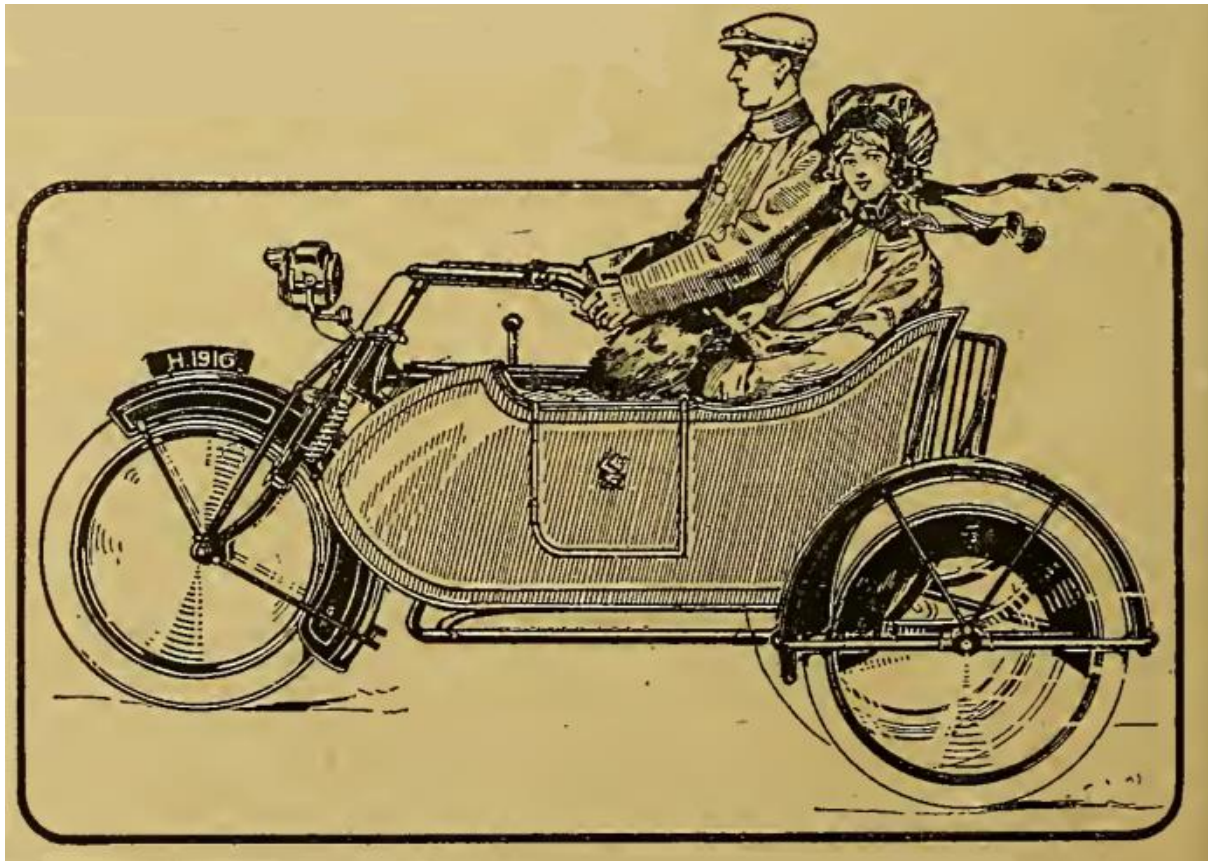
JUST a summer or two ago, Sonny, Your machine and yourself were "fast" friends, But I wonder if you and your Motor Imagined what glorious ends Your knowledge and riding would lead to— What deeds on your mount you would do— I doubt if you gave it a thought, lad— Your Motor or you! Then, you and your mount were just jolly— Some remarked "Jolly nuisance", no doubt, As you flew past some portly old stager With throttle—well, nearly all out, Or may be some fairy-like flapper Reposed on the rear of your bike— No doubt you oft glance at her letters— "Jack, what's D.R. like?" You will send her a line or two, Sonny, Just remarking "It's jolly good fun", But

you never will tell of the nerve strain Required for each strenuous run. You never will tell of the horror Encountered—I know that it's true, You won't let her hear of the danger, No, Sonny, not you. But history will tell in the future Of hardships you splendidly bore; It will tell of the trials you suffered Day and night in this German-made war. Shell read of the deeds you accomplished— A hero you'll be when you're back... Good luck! and a speedy return, lad— Bravo! Stick it, Jack. **1916. —RL NYE.**



"THE BRITISH MAGNETO AND *THE MOTOR CYCLE*: Those motor cyclists who have the interests of their country at heart will be interested in a booklet which will be ready shortly, reviewing the efforts of The Motor Cycle in fostering a British magneto industry. It is well to recall that *The Autocar* and *The Motor Cycle* were the only two journals which, BEFORE THE WAR, openly exposed the fact that the British motor trade was entirely dependent upon German magnetos. We shall be pleased to supply a copy of this pamphlet to any motor cyclist who cares to make application to the Editor."

"THE WAYS OF DESPATCH riders: Writing from France, Donald E Parsons, ASC, MT, says: 'You know the WD Douglas has the two-speed gear box and no clutch. Well, I have seen riders of these mounts stop the road wheels and keep the engine running; then when they want to move off they paddle for a yard or so and slip in the low gear—still with the engine running. Of course, the rear tyre makes an excellent emergency clutch, but I don't envy the job our workshop staff-sergeant will have when the gear dogs do strip. It would make the designer weep, too, to see them drive on the exhaust valve. They ignore the throttle.' The practice referred to is not so damaging if only an expert is handling the machine. Provided the engine is revolving at the same speed as it would be when driving the machine, the dogs will engage without noise, and the drive will be taken up without shock. We have several times done this on this make when fitted with an automatic carburetter."



This image, from a New Hudson advert, is reproduced here simply because it's gorgeous.



Entente Cordiale...another smashing image, from a propaganda poster rather than an advert.

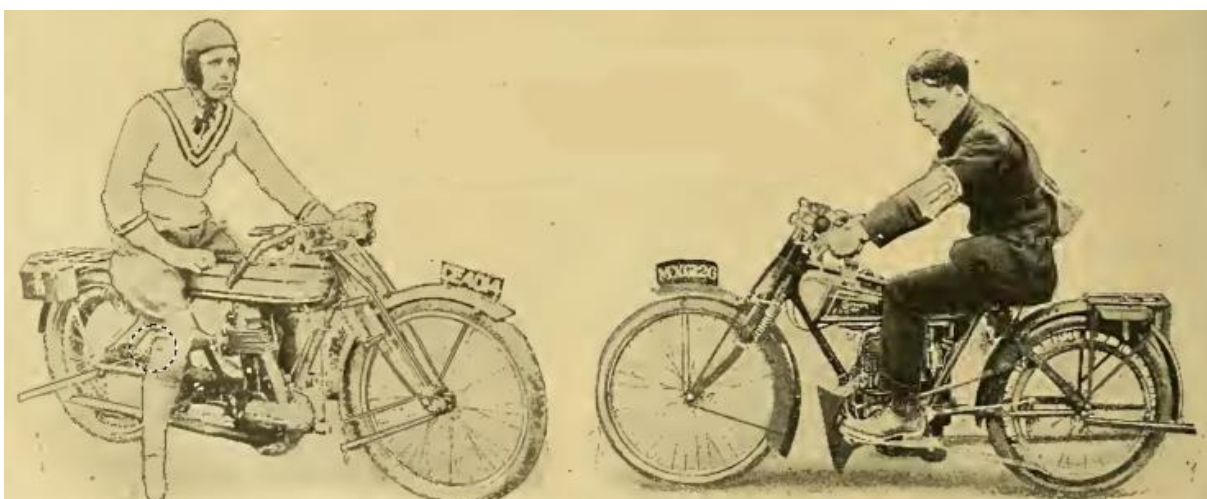
ANYONE WHO HAS CHANGED A TYRE OR TUBE on a spoked motor cycle wheel knows all about rim tape. It seems the idea originated with Messrs Leo Swain & Co of Deansgate, Manchester as the Leosco 'tube saver': "an endless band of good red rubber, thickened in centre and tapered to the edges, which is intended to be stretched over and bedded down in the rim. It effectively prevents contact between the inner tube and the often rusty bed of the rim."

"HILL-CLIMB FOR PUBLIC SCHOOL BOYS: What was termed the Public Schools Motor Cycle 'Championship' was run off at...Snowhill, near Broadway, Worcestershire...rain fell heavily in the morning, and somewhat heavy showers were the order of the day...Though it had been announced by the promoters of the gathering that there were nearly 150 entries for the event, only thirty-two



WH Dare, King Edward's (2½hp Clyno), waiting for the word to go. It is a sign of the times that in this group there are only two men of military age."

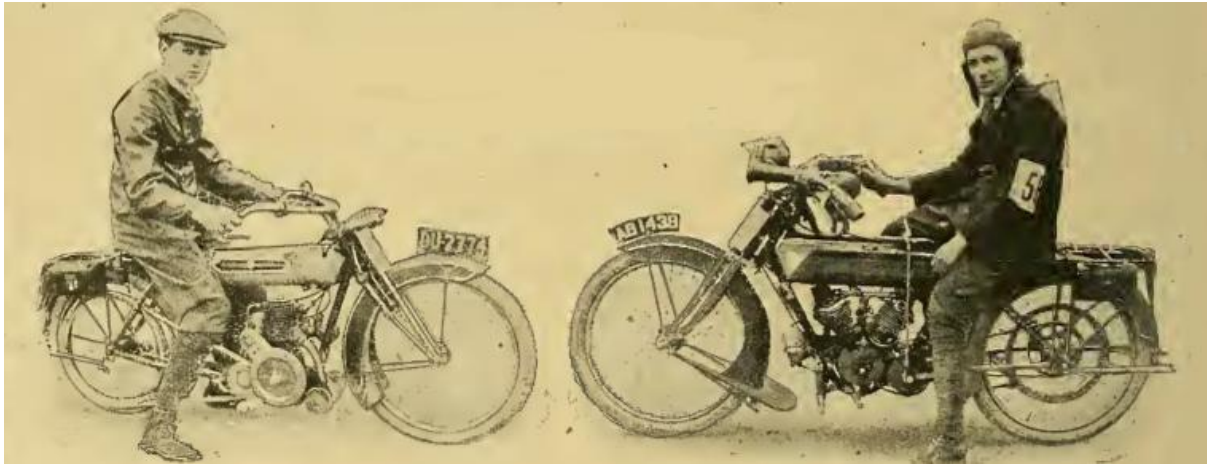
competitors put in an appearance. Whether this was due to the action of the ACU in questioning the advisability of holding such an event in these times—quite apart from the fact that no permit had been obtained—or whether it was due to the unfavourable weather, or a combination of the two, we cannot say, but nevertheless the event naturally lost much of its promised importance. The ACU contended that the holding of the event was in direct opposition to the overtures of Government departments, who are endeavouring to limit unnecessary motoring, the defence of the organisers being that, as the competition was only open to public school boys, it would be very instructive for them should they join the Royal Flying Corps, MT, or other specialised branches of His Majesty's Forces, while the expense incurred would be infinitesimal...All machines were weighed at the foot of the hill. The lightest machine was the Baby Triumph, which turned the scale at 140lb. It was ridden by DH Hulbert, Rossall School, and son of Mr F Hulbert, the well-known motor department manager of the Triumph Co, who was also present as a spectator on a Triumph sidecar. The heaviest machine was the electrically-equipped Harley-Davidson, which, after causing the scale tripod and rope to collapse, finally recorded 375lb! The times were taken by Messrs WH Wells and FW Barnes. Quite a number of



"Left: WP Cubitt, Charterhouse (3½hp Norton), fastest time of the day; JV Prestwich, Harrow (2¼hp Calthorpe) fastest time in the class for machines up to 300cc with fixed gears."

the competitors were attired in the uniform of their respective school's OTCs, which gave support to the promoters' arguments that the meeting was a desirable event, as it enabled

competitors to keep up practice and maintain a knowledge of mechanics that would be beneficial hereafter when the contestants were old enough to join the Forces. The best climb in Class I (single-speed under 300cc) was that of JV Prestwich, Harrow, son of Mr JA Prestwich, the maker of JAP engines. His little Calthorpe, fitted with a 2½hp JAP engine, though clearly not running at its best, made a good climb, and was fastest on time in this class. The performances were generally poor, all competitors making extremely bad starts. General observations: It was interesting to contrast the performances of these lads and their way of handling their machines



“Left: DH Hulbert, Rossall (Baby Triumph) fastest time in his class; G Heath, Cheltenham (3hp Enfield).”

with that of old experienced riders in the good old hill-climbs of bygone days, and most made poor starts, probably due to over- anxiety, which was not allayed by the starter, who seemed to take great delight in hustling them...Contrary to the experience of most hill-climbs, there seemed little enthusiasm among the competitors to know the results, and at the Lygon Arms Hotel in Broadway, when the results on time were announced, not more than five of the competitors were present to hear them...The starter, W Cooper, was very free with his advice to the competitors, who seemed unwilling to open the throttle and start off with a rush on the greasy road, telling them to ‘open the throttle wide and let the engine do the rest’, but when later he tried the hill himself in the grease he did not appear quite so enthusiastic about the open throttle idea...CC Bemrose, whose school is in the Isle of Man, told us that they have never been officially allowed to witness the TT races. He had, nevertheless, usually managed to get away somehow or other to see them...An interesting feature of the event was the number of sons of well-known men in the motor cycle trade who took part...Evidently *The Times* representative was present! On Friday that journal referred to the event having been held on Thursday [it was in fact Wednesday], and to the entry of ‘150 competitors, and about 40 schools were represented’. Let us hope the Board of Trade officials were not misled.”



“Bertram Currie, Eton (2¾hp Allon), nearing the top of Snowhill, near Broadway.”

“THE AMERICANS ARE NATURALLY somewhat annoyed at the prohibition of the importation of motor cycles and parts into this country, but several of the leading makers assert that they anticipated it, and have in consequence large stocks at their English depots. This probably accounts for the large number of machines imported during the past month. Mr Walter Davidson, of the Harley-Davidson Motor Co, says that the American market is in splendid shape this year, and will probably absorb all of the motor cycles all the American manufacturers can put out.”

“AMERICAN JOURNALS: ON THE SUBJECT of the prohibition of imported motor cycles, *Motor Cycling and Bicycling* (Chicago) writes as follows: ‘While the ostensible object of the British Government is to prevent the spending of money for luxuries, it is pretty well understood on this side of the water that the British motor cycle manufacturers have ‘put one over’ on the British motor cycle-riding public. It has been noted that American motor cycles have been supplanting the home-made product in the affections of the riders across the pond, therefore the English manufacturers, whose machines are commandeered for war purposes, or whose factories are devoted solely now to the manufacturer of war munitions, got the Government to stop the importation of American machines to save the British after-the-war market. This is a dog-in-the-manger act.’ This, of course, is absurd. The same paper has lifted the greater part of a photograph which appeared in a recent issue of *The Motor Cycle*. The inscription under this fragment reads ‘English motor cycle battery with motor cycle riders as escort; the kind we need in this country.’ The usual courtesy with which one journal should acknowledge extracts from another also seems to be a crying need in the country which is too proud to fight, but not, it seems, too proud to ‘requisition’.”



“‘Gasolene cavalry’, or, in plain English, United States infantry on Harley-Davidson sidecars used for the protection of Mexican border towns against raids.” [The US was involved in a border war with guerilla forces led by Pancho Villa.]



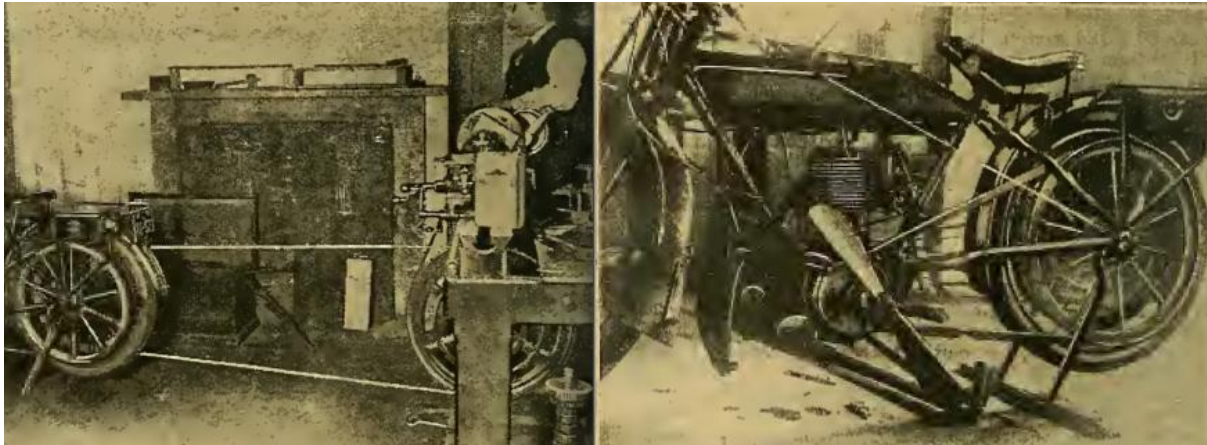
The American cavalry, mounted on Harley-Davidsons, failed to capture General Pancho Villa, who owned an Indian. Now there's a potential testimonial for Indian!

SIR,—NOTICING AN ENGINE THUMP of increasing magnitude in my 1915-16 Enfield, I took the machine to Enfields, Holborn Viaduct, and suggested it might be gear trouble, whereupon the company agreed to locate the fault and let me have the machine within two hours. Calling back ten minutes under this period, I found the last nut just being tightened. But this is the wonderful part of the affair. It was not the gear at all, but a side bush in the crank case that had gone. So it amounts to this: my engine had been totally dismantled, new side bush fitted, and re-assembled ready to drive away in 1hr 55min, as agreed. To the very efficient mechanics at the Enfield London depot I take off my hat; to the firm, my very best thanks.

DE TURNER

SIR,—I THINK I HAVE RATHER a novel use for my motor cycle during the time when I am at school and am not allowed to use it. The machine is a 3½hp Ivy-Precision with a three-speed Sturmey-Archer hub gear. The brake rim is fixed to the right side of the wheel, while the brake works on the outside of it. The inside of this is used as a belt rim, with a cord drive to the lathe in our metal shop. Attached to the pulley by means of a chuck is a 2ft aeroplane propeller. As petrol is so expensive, I have removed the float chamber, and have attached the coal-gas supply to the rest of the carburetter (an Amac). After several experiments it was found that combustion did not take place unless the extra air was stopped up. The carbon deposit was decreased, as was also the exhaust, which was led away by an iron pipe. Starting is extremely easy, for as soon as the gas is turned on and a slight swing given to the belt rim (the belt rim being separate from the wheel) the engine fires immediately. The power is about four-fifths of that given by petrol.

AKB



During term time AKB's Ivy-Precision drove the school lathe; he rigged an aeroplane propeller to keep it cool.

“THE MOTOR CYCLE IN CHINA: In many parts of China motor cycles are still a novelty. Roads, or rather the lack of them, are, in the main, responsible for the comparative lack of progress. The following, however, is not an article dealing with the possibilities of the motor cycle trade in that part of the world, but a reproduction from a Shanghai paper of, some impressions of motor cycling in North Kiangsu. It is such an amusing description that we reproduce the article in full and exactly as it appears in *The North China Daily News*: ‘Within two years two men up here have got motor cycles. Above the line of Tsingkiangpu and Pengpu rice is not cultivated, and the fields are not cut up by canals. Roads are possible, but not in repair...The single cycle which follows the barrow track runs easily and some excellent trips have been made. When the sidecar is attached many difficulties must be negotiated. The longest trip yet made in one say, with the sidecar attached, was from Hsuchowfu to Suchien, a distance of 80 English miles. It was against a driving, east wind which wind brought snow and rain in its train. The traveller in the ordinary vehicle must have been held up in a mud hovel without fire and without the food that he would like. The novelty of this arouses much excitement. Even the hares get jealous at this trespass on their domain of swiftness...Gradually he drew away from us. So the driver changed to his fastest gear. Now it was ‘nip and tuck’. His ears softly dipped and danced on his shoulders as he sped along. Applause put the last ounce of speed into his flying form. Yet the red monster was neck and neck, not gaining an inch! The driver then injected extra gasoline. The machine fairly lifted itself and bounded forward. In another moment the challenger must be under the wheel; when he doubled all the while going at top speed...He had fairly won. What man-made machine could take that turn at that speed and yet go off on an even keel? As one passes through the country the excitement among the towns and villages was phenomenal. It was not fright nor ill will, It was plain curiosity pure and simple. Drive into a village where everyone is nursing arms in homes or tea shops. The steet bare, but for an occasional hawker or two. Drive out at the other side and look back. It is as if one had struck a hive of bees. They tumbled out in crowds, looking at the fleet visitor. One leaves the gate and streets China-blue with people, to go ahead and surprise another town. Stop on the street for a moment and the crowds behind fall over those in front. After one or two trips it is an old story and’ they will only be excited at an aeroplane. The motor cycle is here to stay.”

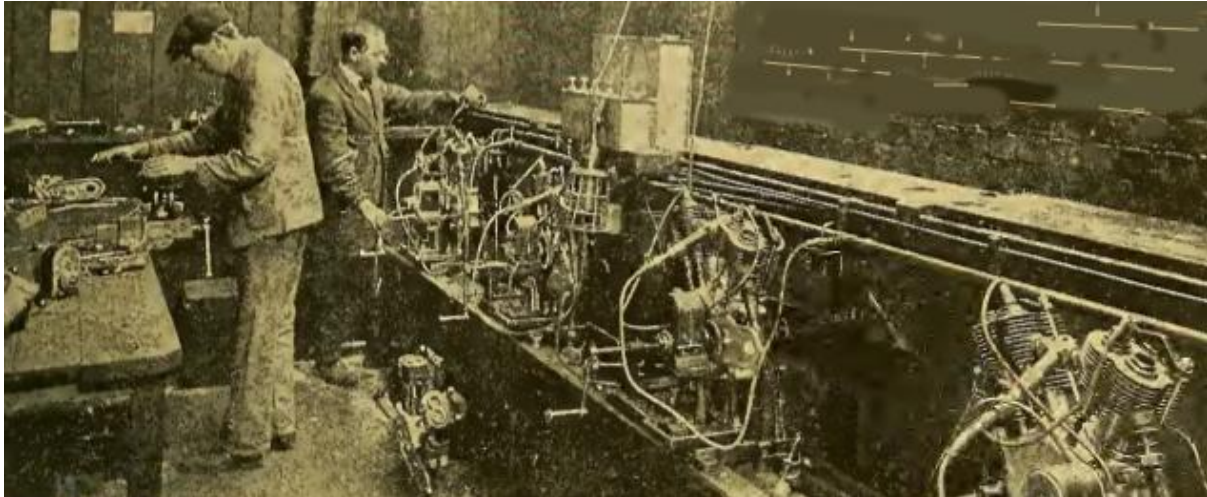


“Three RFC mechanics in a French town. The man riding the solo P&M is Sgt H Cook, now in charge of a P&M army repair depot in France, and formerly in the employ of Messrs Phelon and Moore. The Royal Flying Corps, it will be remembered, use motor cycles of this make exclusively.”

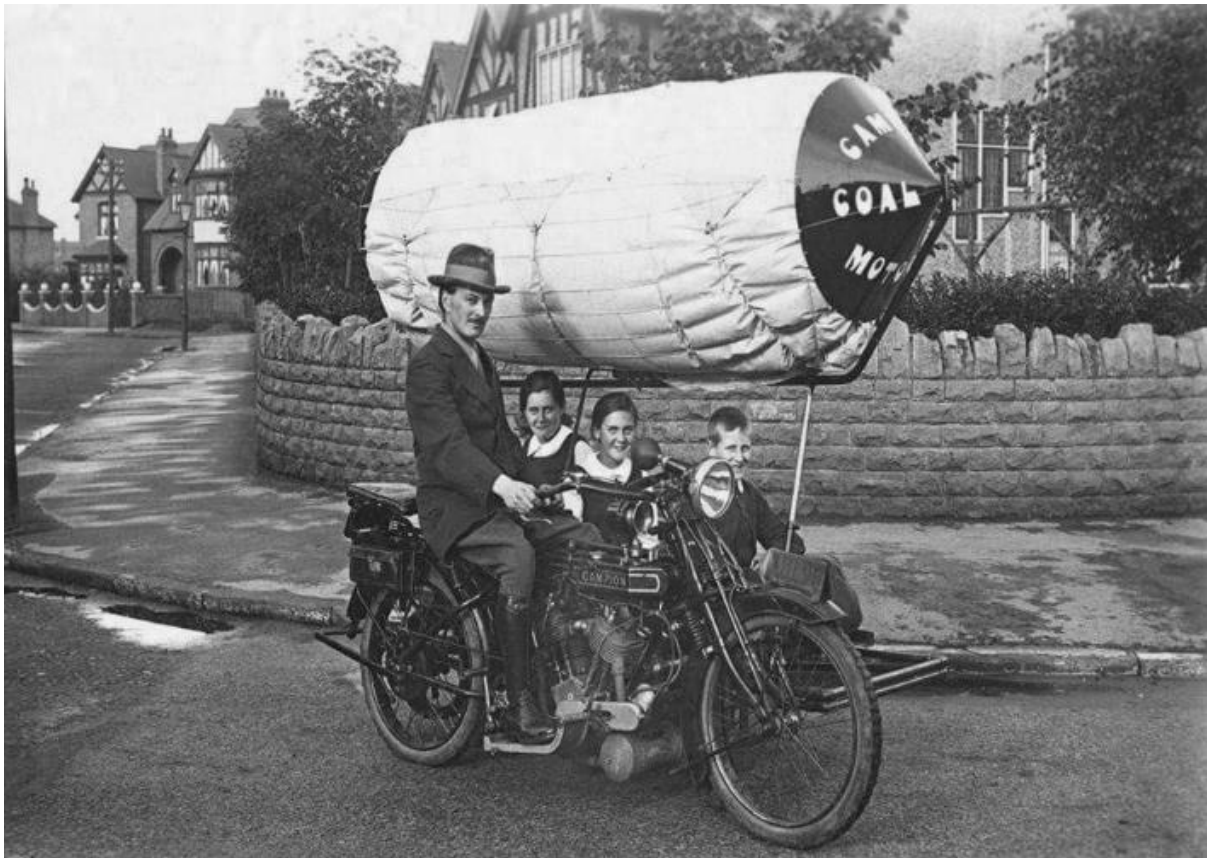


“A Russian officer on his P&M. The rider, M Worobloff, tells us that all his company are equipped with motor cycles of this make.”

WITH PETROL IN SHORT SUPPLY the price rose to about two bob 3s 11d (20p)/gal. That would be roughly equivalent to £12/gal (£2.65/lit) today. To cope with petrol shortages motorcycles were soon being run on paraffin or even coal gas stored in gasbags mounted in trailers. AJS piped in town gas to run engines on the bench so as to make the most of scarce petrol supplies. It reported: "The engines showed no signs of overheating and ran perfectly regularly, although the speed and performance were not quite as good as when using petrol."



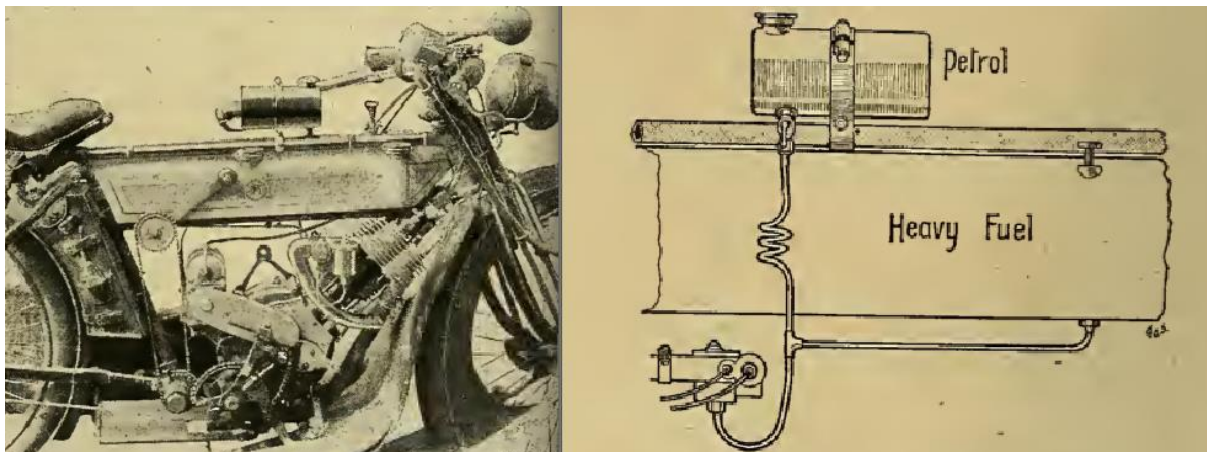
"We saw two engines running in this manner, one a 2¾hp single, the other a 4hp twin, and both appeared to run with perfect regularity."



This Champion outfit is running on coal gas.

IN RESPONSE TO ROCKETING petrol prices and shortages the Binks carburetter Co offered Binks XXX fuel, a 'heavy fuel' with a specific gravity of .772. It was about half the price of petrol.

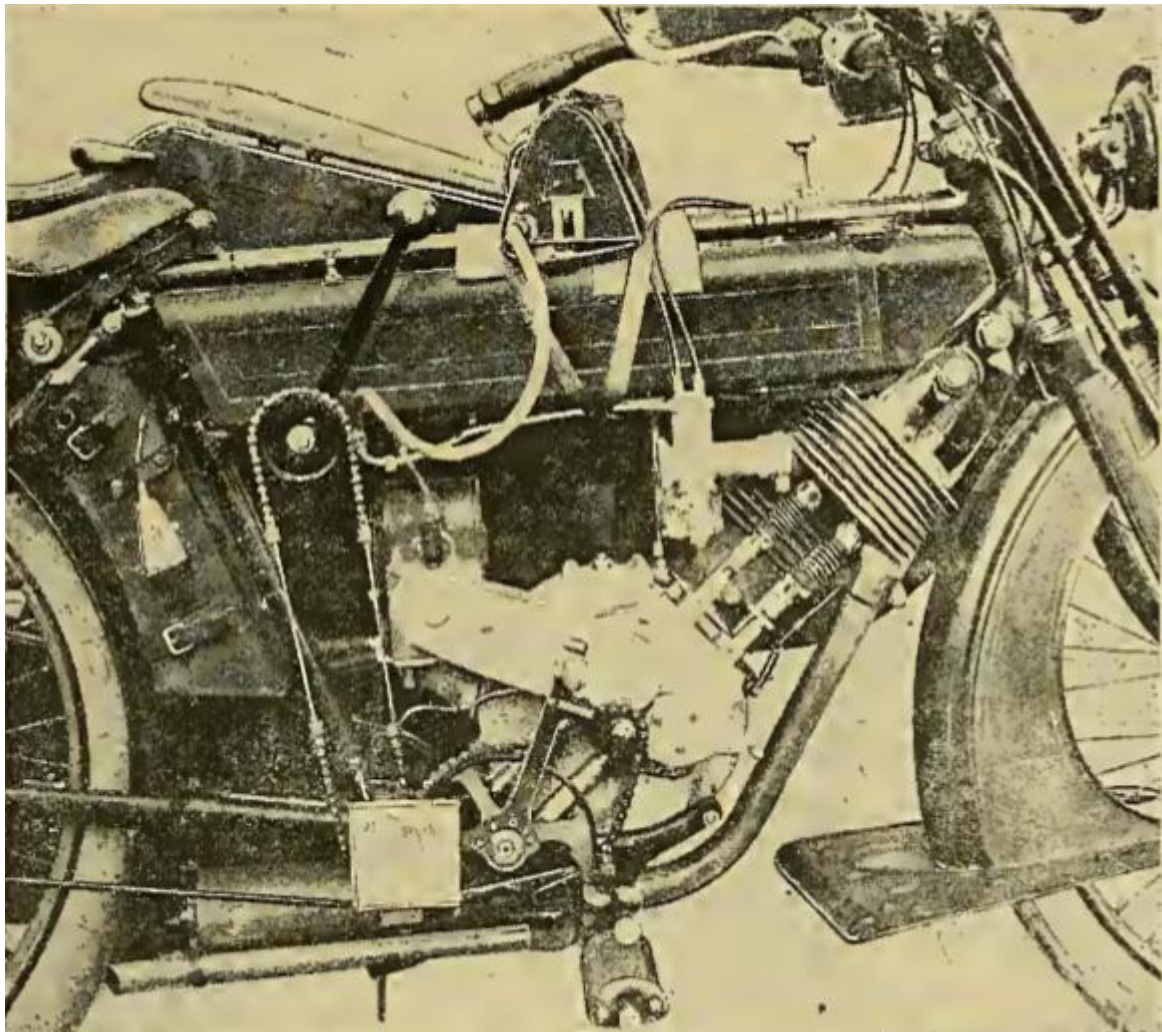
"A Binks carburetter is not essential to its use, though naturally very much better results are obtained by following the Binks system all through. Any good carburetter, fitted with a hot air intake, would probably yield satisfactory results. The chief disadvantage of the fuel is that an engine cannot be started on it from cold, and therefore a subsidiary tank and a two-way tap for a supply of petrol for starting are necessary." Comparative tests were made using a 1914 3½hp P&M outfit owned by a Motor Cycle staffer. "Time was lost when the Binks fuel was used by the necessity for constantly having to retard the firing point, and finally the compression of the engine was reduced by inserting a 1/16in copper packing between the cylinder and the crank case. This almost cured the knock, and better running was experienced...The manner in which it would tick over, responding instantly to a movement of the throttle lever, was most gratifying, and it was difficult to believe we were using a fuel little lighter than ordinary lamp oil." On the flat with no wind the P&M averaged 27.4mph over a short test course at 72.8mpg running on Shell petrol. On Binks XXX average speed fell to 26.4mph but consumption also fell, to 88mpg. The comparison was repeated on long climbs against a strong headwind. On petrol the P&M did averaged 20.6mph at 48mpg; on XXX it averaged 19.8mph at 60.8mpg. "Mr. Binks states that most standard touring machines prove slightly faster on Binks fuel than on petrol, and this would probably prove to be so in the case of twin-cylinder machines, as the fuel gives a very strong explosion, but in the case of a 'single' it is almost impossible to press the engine above a certain road speed...Unless the carburetter be quite drained of the heavy fuel, this remains in the bottom of the float chamber, and is difficult to get rid of when attempting to start up on petrol. A tap for draining the pipe and float chamber would be useful. A careful scrutiny must be made for air leaks...the motor cyclist who adopts this or similar systems must make up his mind that careful adjustments will prove necessary ere the best results can be obtained. With any type of carburetter a hot air intake is desirable, and with single-cylinder machines it will probably prove necessary to reduce the compression. Imperfect carburation should not be allowed to continue, and freedom of exhaust is more necessary than if petrol be the fuel."



"The special hot air intake seen fitted to the three-jet Binks carburetter to facilitate evaporation when running on the special fuel. (Right): Simple method of connecting up the petrol and heavy fuel feeds."

BINKS WASN'T THE ONLY FIRM to react to rocketing petrol prices. Coal By-Products Co of High Holborn marketed 'Spots', a petrol additive that was claimed to increase the carbon content of the petrol, boosting power while cutting fuel consumption by 25%. *The Motor Cycle* tested Spots on a 3½hp WD P&M. A one-quart reserve fuel tank supplied by the Service Co was used for the test. "The night before the test was carried out, half of one of the 'Spots' tabloids was placed in a carefully measured gallon of petrol. Next, 8oz of the treated spirit were placed in the

tank, and this was done on Brooklands track, and a start was made from the beginning of the mile, the object being to see how far we could run on the treated spirit.” They ran dry at 4½ miles; repeated the run on petrol and ran dry at 3½. That equated to 90mpg and 70mph; a saving of 25%. There was no apparent increase in power but neither was there a decrease. *The Motor Cycle* concluded: “It would be interesting to see how the treated petrol would behave when given a series of tests by such official bodies as the Auto Cycle Union and the Royal Automobile Club.” However, when the test was repeated using a 1916 6hp Enfield with an Amac carb fuel consumption with and without Spots was identical.



For

the Spots test a Service Co reserve tank was strapped to the top of the petrol tank. It was designed to be mounted on the front mudguard with the registration number painted on its sides. The Spots ‘tabloid’ (which was said to treat two gallons of petrol) is that white object on the footrest.

IN RESPONSE TO ENQUIRIES about petrol substitutes the Blue ‘Un’ collated a list: Benzolite, Petroline, Petrolior, Beatsol, Russelline, Harwood’s Motor Fuel, Wital, Kempol, Petrofin, Binks Fuel, Hall’s Motor Spirit, Triple fuel (in three grades), Magic and White Oil. With riders becoming increasingly desperate to find fuel for their bikes, suppliers were happy to oblige...

10,000

GALLONS

FREE FROM
PARAFFIN

PETROLIOR

NO SPECIAL
CARBURETTOR
REQUIRED

The Petrol Shortage Solved

THE PRODUCT.

A straight distilled water white spirit of petrol type and odour.

Flash approximate .. 78°-80°

Total distillation .. 195°-200°

ITS USES.

Used neat or mixed with petrol or paraffin as desired, a far cleaner and sweeter spirit than much of the petrols now on sale.

CARBURETTORS.

Will vaporise in any and every type of carburettor. Machines fitted with controlled air inlet or a rough warming jacket round induction pipe gives absolutely perfect results.

"THE HISTORY OF PETROLIOR."

2/11

Per gallon cash.

Free on Rail London.

Prices of Packages see below.

2/11

Per gallon cash.

Prices of Packages
see below.

For many years past we have handled hundreds of thousands of gallons of this spirit for special technical work, and the discovery of its adaptability as a motor propellant is due to old clients' reports as to the uses to which they were adopting this spirit. The regular flow of repeat business proves the efficiency of the product.

PRICES OF PACKAGES:

5-gallon Drums.

3/-

10-gallon Drums.

4/6

42-gallon Barrels.

7/6

This amount must be added to your cheque for spirit, and we will allow in full on return, carriage paid, in good condition to our works.

I SUBMIT there
 is a solid reason why you should adopt a
BINKS CARBURETTER, viz.:
YOU CUT YOUR FUEL BILL IN TWO
 if you adopt my system and use my
 fuel. You can, of course, use petrol or
 benzol without alteration.

Price of
 Carburetter
 complete—

49/-

plus 10% extra
 war cost.

**FIT ANY
 MACHINE.**

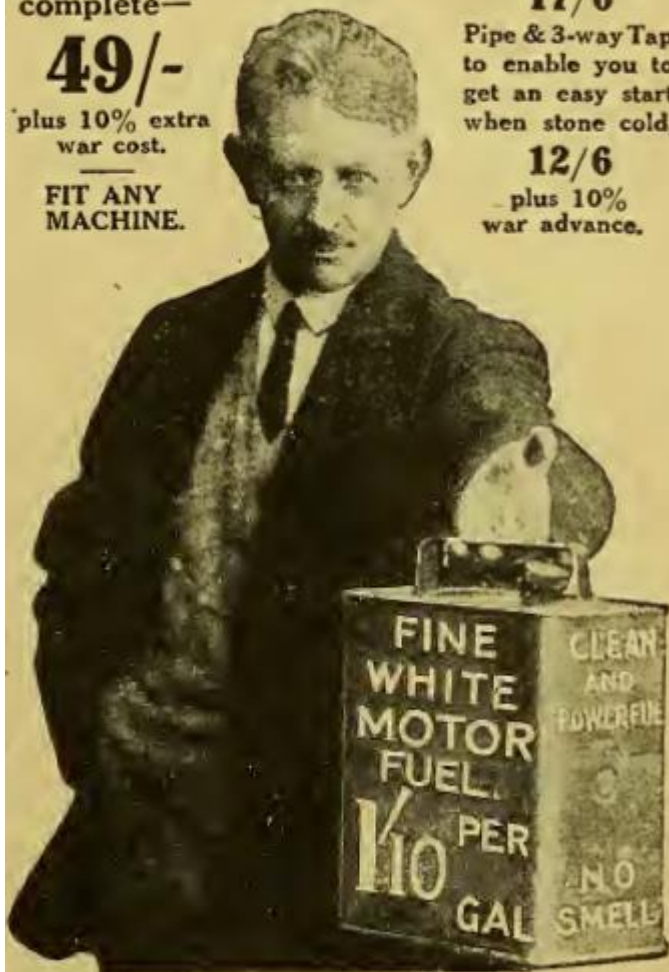
Small extra Tank
 to clip on Frame,

17/6

Pipe & 3-way Tap
 to enable you to
 get an easy start
 when stone cold,

12/6

plus 10%
 war advance.



The text below that compelling picture of

Mr Binks read: "**READ!** MY 3-PHASE JET DAMPING CARBURETTERS have such perfect vapourising properties that they enable you to use fuel at 1/10 per gallon in 42-gallon casks, which you are allowed to keep on your premises. Your engine will tick over dead slow, and pull dead slow in traffic, yet give the full power. It is almost impossible to tell you are not running on petrol at 2/9 a gallon. It cannot damage your engine or soot it up, and makes Motor Cycling possible in these times. I give you my personal assurance of the truth of what is stated above. Please send at once for full particulars of the carburetter, and also for my Treatise on Carburation, and terms of One Month's Approval Trial. C BINKS, Ltd, Eccles."


CARRY ON

 BY USING
KEMPOL No. 1
No licence required to store or sell "Kempol," or alteration to carburetter necessary.
The Most Reliable Petrol Substitute Offered.
 No. 1 Grade—**2/6** PER GALLON } IN 42 GALL.
 No. 2 Grade—**2/-** „ „ } BARRELS.
 Casks charged 10/- each—allowed on return in good condition. **QUICK DESPATCH GUARANTEED.**
TERMS: Cash with Order. F.O.R. Manchester or Sheffield.
Fit Kemp's new device to start from dead cold. Price 15/- (complete) carriage paid.

THE "GRADO" VAPORIZER
(PROV. PATENT No. 13113)
HAS SOLVED THE PETROL TROUBLE. IT MAKES
PARAFFIN EQUAL TO PETROL.

"ACCORDING TO RELIABLE INFORMATION which has reached Lord Montagu via Denmark, the Stettiner Co, of Germany, has already erected eleven to twelve large coalite plants to increase the supply of benzole. Year's ago, practically all the British automobile journals urged our own government to move on the matter, but without result. Everybody now knows how, at the eleventh hour, the sale of benzole was prohibited, and the whole supply taken for high explosive shells. Had the output of benzole been encouraged, there would probably have been no shortage of motor spirit to-day for military or civilian purposes."

"MANY ENTERPRISING GARAGES are stocking, and are able to supply in either large or small quantities, white oil, which is a highly refined kerosene. When mixed with a small proportion of ordinary spirit excellent running is obtained, and if starting is effected on petrol the fuel can be used neat."

"ONE GOOD MAY COME OF the shortage of supply. I ride a 2¾hp Sunbeam with Amac carburetter. Thanks to a tip in your paper, I put pins in the holes above the jet, and increased my mileage per gallon from 90 to 108. Then I added Spots, and on the last two-gallon can of Pratt's I got 134 miles per gallon. My running is done with many stops, and on a long run I am sure I could improve on those figures.

M.I.MUN.E."

VEHICLE OWNERS EXPRESSED STRONG views on the petrol census and rationing. The main theme was that the use vehicles were put to and essential mileage had been ignored when allocating rations. Motor cycles, of all sizes, were to get six gallons for three months (doctors did get more); cars got 24 gallons, even if their owners had asked for less and had reported that they only used their cars for occasional joyrides.

“ANALYSING PETROL SUBSTITUTES: It is reported that the Petrol Control Committee has taken samples of many petrol substitutes, and is having them analysed. If it were discovered that a substitute contained petrol, it would be interesting to know who would be liable to a fine. The purchaser could not be blamed unless it could be proved that he knew it contained petrol.”

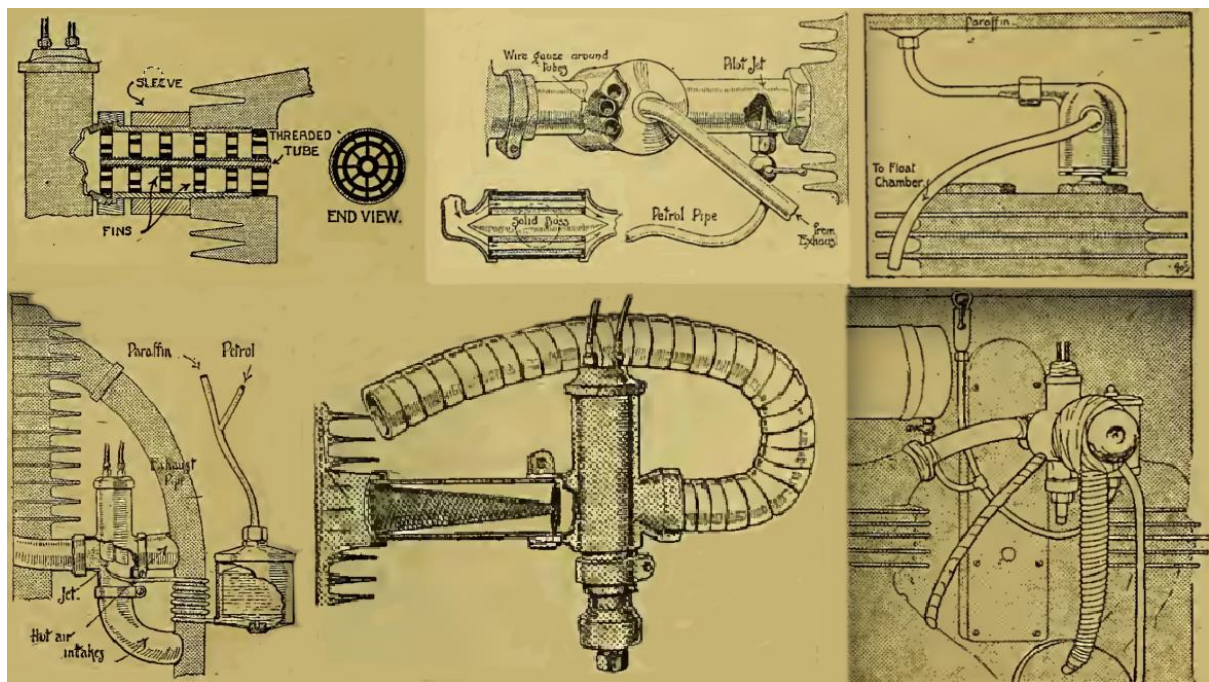
“SOMETHING NOT NEW: Under the heading, ‘A New Motor Engine’ *The Times* printed the following paragraph the other day: ‘According to the *Nationaltidende*, an inventor named Ellesammer has succeeded in constructing a carburetter making it possible to use benzol instead of petrol for motor engines’ We congratulate *The Times* on this wonderful discovery. It seems possible that alcohol is meant, and that the inventor is probably Elleham, who manufactures the only motor bicycle turned out in Denmark.”

“THERE IS TALK OF TAXING all that is left to run on, and of not allowing us to buy our white spirits or paraffin—which is no spirit at all—without first entering the sale on our petrol tickets. And the reason for this state of affairs is mostly due to the meddlesome interference of certain half-penny evening papers.”

“PURE PETROL VERY RARE: Complaints are increasing in number that most of the petrol one buys nowadays is adulterated—usually with paraffin. If such is the case it is scandalous in view of the price charged.”

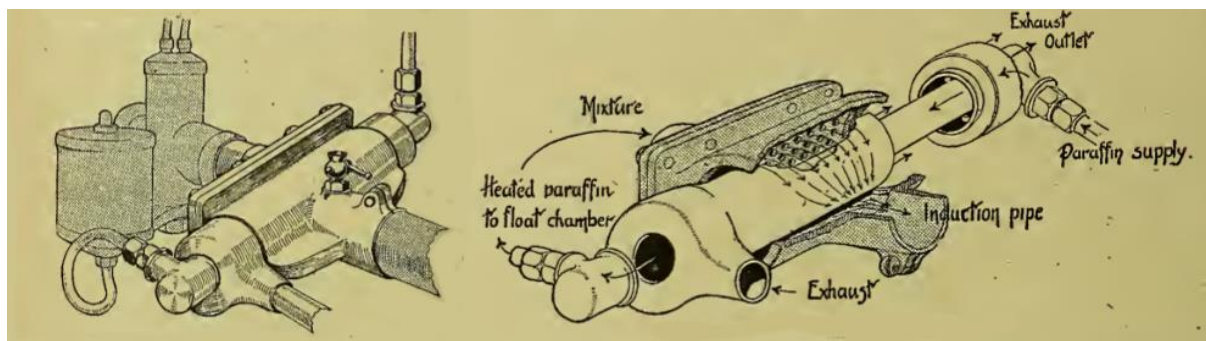
“PETROL SUBSTITUTES POPULAR: Motor cyclists are settling down to petrol substitutes, of which there are about a score of brands. We have questioned many motor cyclists, and rarely find any using neat petrol. Heavy fuel is much more satisfactory with an air-cooled engine than with one of the water-cooled type.”

“RATHER LATE IN THE DAY: A new feature introduced into *Pell Mell*, the revue at the Ambassadors’ Theatre, is a satire on the Petrol Control Committee.”



One result of the petrol shortage was to encourage inventors to seek ways to reduce fuel consumption and adapt carbs to deal with paraffin and other ‘heavy fuels’.

MOST OF THE DEVICES INTRODUCED to facilitate the use of paraffin or 'heavy fuels' to replace petrol relied on heating the fuel on its way to the carburetter, or between the carburetter and the engine. The Grado vaporiser "is more ambitious than many devices we have seen: not only does it heat the fuel on its way to the float chamber, but the mixture is reheated in its passage to the engine...This method of double heating, combined with the usual partial vaporisation by the carburetter, should transform the liquid paraffin into a perfect vapour...A petrol injection is needed to start the engine, and a small tap is provided forj this purpose over the induction pipe manifold."



"Grado vaporiser, between carburetter and inlet valve. Sectional view of the Grado vaporiser."

"SIR,—BEING A RIDER of a Harley-Davidson, I wish to inform other riders of this machine that I have been running on pure Kempol without the use of petrol. Machine fires right off from first kick. I have been using it for the last two months, and I must say that I do not care if petrol is stopped altogether.

OTTO VIOLA."

"SIR,—I HAVE FOR SOME time suspected that petrol is being adulterated with paraffin, and I have been experimenting in order to find some chemical test which will demonstrate the adulteration. The following test will prove, more or less conclusively, whether petrol contains paraffin or not: Take a quarter of a test tube of petrol and add three or four drops of nitric acid. There will be a distinct dividing line or meniscus formed which splits the solution into two halves. The top layer is petrol; the bottom is paraffin. Add a few drops of chloroform and shake. A deep yellow precipitate will fall to the bottom of the tube, while a pale green precipitate will form at the top of the solution. This test is perfectly simple, and should be of use to motor cyclists who are doubtful as to the purity of their petrol.

EJ LI JONES-EVANS."

"LAST WEEK A MIDLAND rider had his Douglas motor cycle requisitioned by the military authorities who were stationed in his district repairing telephone wires. This is the first time we have heard of motor cycles being commandeered since the early days of the war."

"MOTOR CYCLISTS AND THE AIR SERVICE: AS Jones, of the ASC, MT, writes: 'As an ASC man receiving 6s per day, I believe it is unfair. I have offered to transfer to the Royal Flying Corps, which would automatically reduce my pay to 2s a day, but the request has been refused.'" Despatch riders were paid roughly a third the rate given to Army lorry drivers, but nearly twice the pay of the PBI in the trenches.

ANY COMPETITIVE EVENT IN THESE DAYS admitting 'slackers' would not be tolerated. Thus the Birmingham Motor Cycle Club's annual Easter Monday reliability trial was confined to ladies, Service men, Reserve men, munition workers, and all other war workers, but there were no openings for single men eligible for service. We have no doubt that the organisation of an

isolated competition such as this for the genuine workers forms a very welcome respite. It provides something to look forward to, and may fairly be characterised as recreative motoring as opposed to joy riding pure and simple. At the starting point at Griffin's Hill, Selly Oak, one was cheered to note the proportion of khaki-clad competitors, whilst navy blue was not



"T Stevens (4¼hp James sc) being passed by Pte CH Poole (5hp. Indian). C Naylor (4hp AJS sc)."

entirely absent. There was the same old starting point for Birmingham club trials...Practically all the fifty-eight entrants were sent off at minute intervals from 9 a.m. over the 146 miles course, which, though devoid of 'freak' climbs, was sufficiently sporting to promise much weeding before the competitors arrived back in Birmingham. It was drizzling with rain as the riders moved off toward Beacon Hill in the face of a gusty wind blowing from the South-West...We passed ER Troward doing something to his machine—he had complained of a fractured fuel pipe at the start—and later Sec Lt HR Davies busy with his back tyre...Dropping back again to the Worcestershire side, the competitors wended their way to within half a mile of Upton-on-Severn, or Severn-on-Upton as a wag put it, bearing in mind the recent floods, and then turned to the right for Gloucester. The roads now being dry and hard, the men had no difficulty in keeping to the 20mph schedule, fr frequently we passed groups chatting and smoking...Two competitors ran out of petrol on Birdlip—Rose (4¼hp BSA sc) and Coates (8hp Sunbeam sc) who had two spare tins of spirit strapped to his carrier...The burly Haddocks, astride a little two-stroke



"Two Sunbeam rides on the Wyche Cutting. The solo rider, AJ Young, got on better than Sec Lt HR Davies. Right: H Riddell, Sub Lt RNVR, driving his 3½hp Sunbeam sidecar up Birdlip."

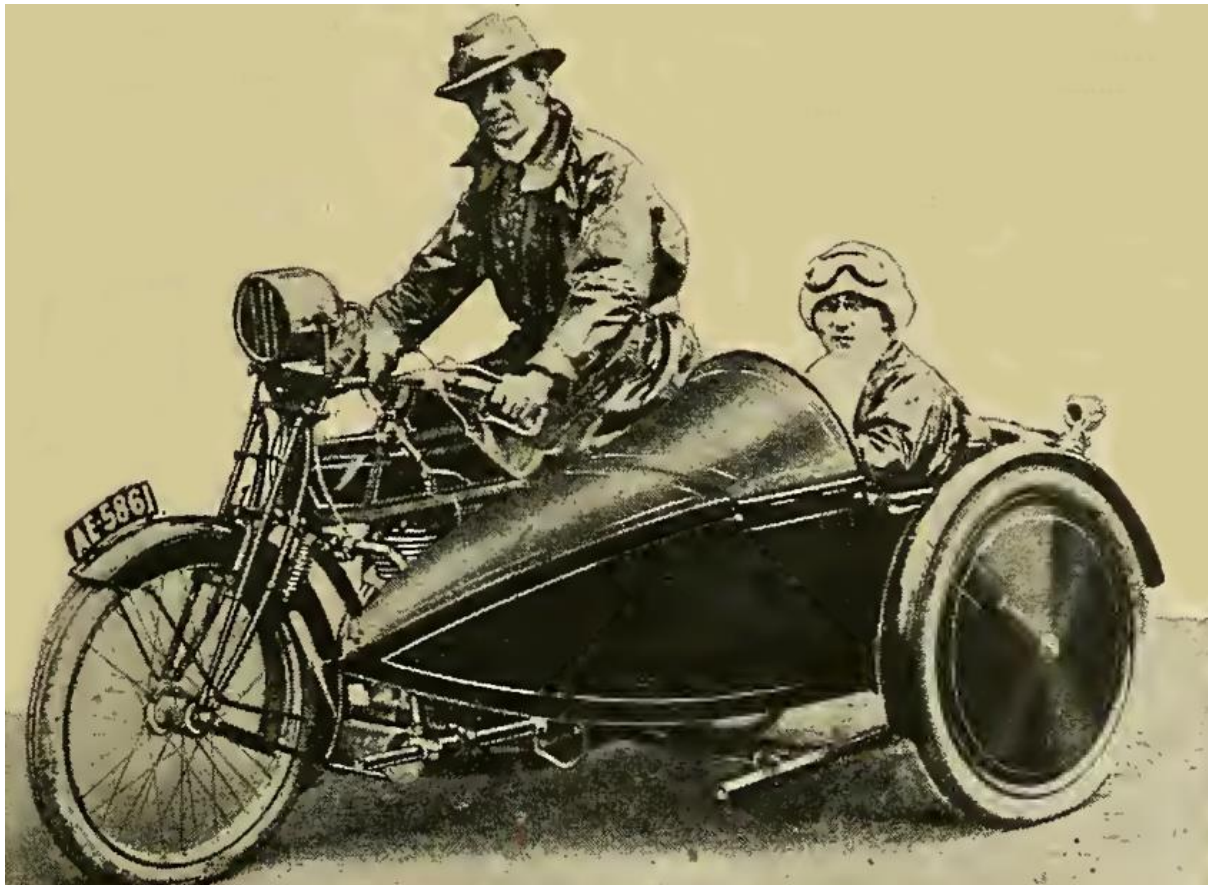
Diamond, went up comfortably, as is his wont. The 4hp Sunbeam sidecar driven by JE Greenwood, the Sunbeam designer, showed up conspicuously, as also did Cooper (Harley-Davidson) and JR Alexander (Indian sc)...Unhappily Lt HT Alesservy, since his last appearance in competition, has had his right foot amputated, after being wounded at the Dardanelles by machine gun fire. He handled his Alorgan throughout very dexterously...There was quite a crowd to see the competitors restart, motor cyclists pre-dominating. Those who are acquainted with Midland trials will hardly need telling that Rising Sun or Gambles Lane was the first test after lunch. There was the usual crop of failures, intermingled with star ascents, which show up skill in tuning, handling the machine, and selection of gear ratios. Again a crowd took the greatest interest in the proceedings, and appeared thoroughly to enjoy the fare...Sgt A Milner, who will be

remembered by many as a very clever trick rider, amused everyone by bouncing his front wheel high off the ground. His little Levis had no difficulty in climbing the hill...JE Rose (4¼hp BSA) came up fast with front stand down, and when within a few yards of the top the stand apparently caught a rut, and caused him to fall...W Cooper (Harley-Davidson sc) came to a standstill just below the steepest part, but by slipping his clutch he reached the top in



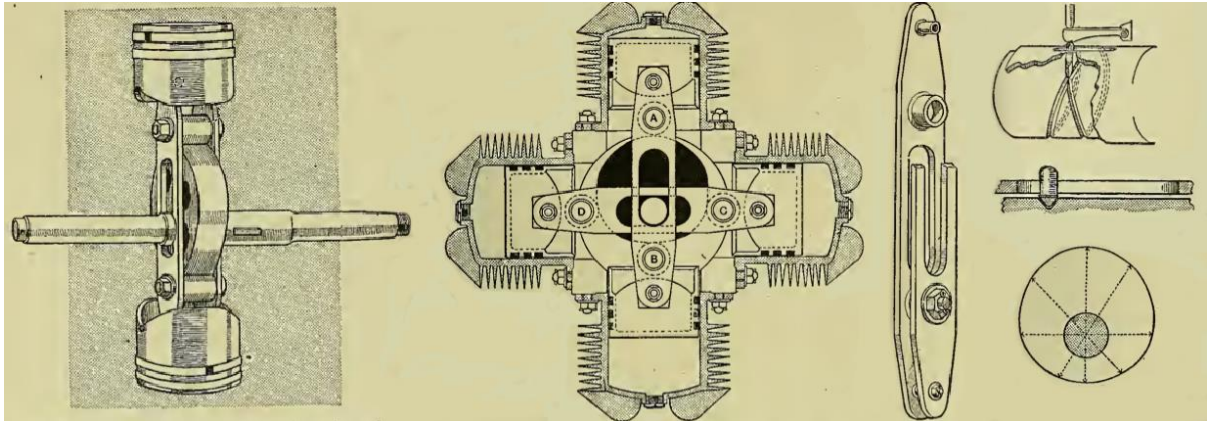
“Staff-Sgt NH Brown making a good ascent of Portway on his Pwerplus Indian sidecar. Right: TH Haddock (2½hp Diamond) approaching one of the gulleys on Rising Sun.”

a succession of jerks, being assisted by the onlookers. This was hard luck, as he had an otherwise perfectly clean sheet...Miss Hough (GP Morgan) showed great skill in driving, for when at the steepest part she was baulked by a sidecar and had to thread her way through spectators at the side of the road...E Frasseti (Indian sc) again made a star ascent. Miss Lottie Berend, his passenger, was the only one we noticed to lean in the proper direction on the bend...Bell's Harley-Davidson sc 'roared up', to use a term beloved of motor cyclists...Ratcliffe's Norton sidecar was very fast, but the bark—it was ear splitting with the throttle open! Altogether forty-four competitors of the original fifty-two starters passed us on Sudeley Hill...At the time checks, by the way, one or two competitors had cut things so fine that they literally dashed up to the officials and almost threw their watch cases, narrowly avoiding collisions with machines in the roadway...competitors generally voted the event a very successful one and excellently arranged.” Twenty riders won gold medals; 11 failed to finish. “By the way: Cpl J Drew had his leave cancelled, and had to return without competing...The five Indians entered all gained gold medals...We hardly recognised Haddock when he proffered a handshake. He is now clean shaven, and wittily remarked that there had been a 'Hair Raid'...The two members of our staff who covered the trial were mounted on military models—a 4hp Triumph, such as supplied to despatch riders, and a Clyno sidecar outfit largely used by the MMGS. Both behaved in an exemplary manner climbing all hills with ease...A new Humber 'after the war' model was driven round the course by Sam Wright. It has a 3½hp horizontally opposed twin engine and three-speed countershaft gear box...AE Kibble (4hp Triumph) ran over a dog in Broadway, which caused him to fall and hurt his foot. He was taken into a house, but was able to proceed after resting awhile.”



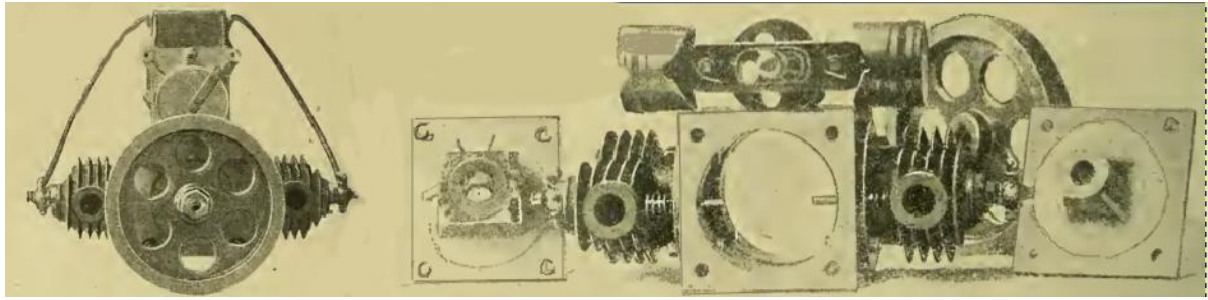
“Birmingham MCC trial: A neat and attractive sidecar attached to E Kickham’s 3½hp Sunbeam. It has a hood, and a celluloid screen can be fitted if desired.”

MOTOR CYCLISTS HAVE BEEN so accustomed to engines having cranks and oscillating connecting rods with their big-end and gudgeon pin bearings that the possibility of building an engine without these adjuncts has probably not occurred to many. Such engines have, however, been designed and built (we are not alluding to turbines) in two series, viz, steam and internal combustion engines, and differ from the usual type in the important features to which we have just alluded, eg, the place of the crank is taken by an eccentric cam, the gudgeon pin bearing is entirely absent as the double connecting rods are fixed rigidly to the pistons, and, in fact, the usual methods of converting a reciprocating to a rotary motion have been entirely superseded in a most novel and ingenious manner. The engine to which we refer is known as the Lewis: this engine we recently had the pleasure of inspecting in Mr Lewis’s little workshop at Dinas, in the Rhondda Valley, and we can assert that we were much impressed by the ingenuity and originality of design. The engine we saw had two opposed cylinders, but it was so arranged that two more cylinders could be fitted at right angles. The system also admits of six or eight cylinders, but in every case the cylinders must be in pairs and set opposite to one another. The pistons are also connected together in pairs by rigid connecting rods, such as are shown in Fig 1, each connecting rod being constructed of two steel plates carrying two hardened rollers between them and having slots through which the main engine shaft passes. This shaft carries on its centre a specially shaped cam mounted eccentrically which takes the place of cranks. If the cam were circular in shape it would be evident that both rollers could not be in contact with it during the whole period of revolution, for the diameter is the greatest chord which can be drawn in a circle therefore, in Fig 2 the rollers A and B would touch the cam, but some play would be allowed to C and D.



From left: "Pistons and eccentric cam showing how the reciprocating movement drives the main shaft. Fig 2: Section of the Lewis engine, showing how the pistons are joined in pairs. Fig 1: Double connecting rod to the Lewis engine. Top, Fig 4: Diagrammatic sketch of valve mechanism. Bottom: Fig 3: Irregular shaped cam driven by the rollers attached to the connecting rods."

This would, of course, cause a knock, and so the cam is not made truly circular, but so constructed that the lines which pass through the centre of rotation (not the centre of the cam) shall all be equal in length (see Fig 3). It will be evident that the direction of the piston thrust will always be through the centre of the engine, and that all the cylinders will be in the same vertical plane. It is also claimed, that the shape of the cam gives a very even torque, and does away with the secondary forces which the angularity of the connecting rod causes to be present in the usual type of engine, and which cannot be balanced by a revolving weight on the flywheel. The balance of the four-cylinder engine should, therefore, be excellent. The engine we saw had stationary cylinders and a rotating shaft, but it is quite possible to reverse this procedure and make the cylinders revolve. Owing to the small size of the engine, 12in over all, there would be no difficulty in fitting a rotary engine into a motor cycle frame, and a four-cylinder made on the four-stroke principle, having a bore of 2in and stroke of 1in (just over 200cc capacity), is claimed to give 4hp at 4,000rpm. The valves are operated by scroll cams (see Fig 4), which bring forward a peg once in every two revolutions of the engine; this peg lifts a tappet, which in turn raises the valve. All the exhaust valves are operated by a scroll on one side of the engine, and the inlet valves similarly worked on the other side. The flywheel is, of course, outside, and is about 6in in diameter. The weight of the four-cylinder engine (without magneto) is 21lb. In the rotary model this weight can be still further reduced, as a flywheel would be quite unnecessary, for the engine itself would take its place. Another point which is worthy of mention is that the construction of the engine admits of very large bearing surfaces, which, of course, mean very satisfactory wearing qualities. Curiously enough, the Barry engine, which many of our older readers will remember as a design of much originality, also hailed from South Wales. At Mr Lewis's workshop we also saw a most fascinating little steam engine of the rotary type, the case in which the engine revolved taking the place of the cylinder heads, the surfaces being ground true and made steam tight by a film of oil. This engine, which measures only 6in x 4in, is said to be capable of exerting 4hp at 7,000rpm with a steam pressure of 150psi, and it is so free from vibration that it can be run at this speed attached to a small stand and simply set up on a wall without any fixings. It can be reversed in a moment by throwing over the eccentric cams with a small lever. When this is done the engine quickly comes to rest and then starts up in the reverse direction. Such an engine, combined with a suitable flash boiler and condenser, should be ideal for a steam motor cycle.



From left: "The Lewis twin-cylinder engine. The Lewis engine dissected, showing the twin pistons, eccentric cam and other parts."

"OUR AMERICAN CONTEMPORARIES are evincing great interest in the part that motor cycles are playing in the punitive expedition against the Mexican, Villa. It is considered that the Mexican scrap is a test for the military motor cycle—and upon its success or otherwise depends its adoption in numbers by the whole army of the United States."



Pleasure motoring was criticised as a waste of petrol; wiser heads pointed out that leisure activities boosted productivity. This group of Sheffield Muniton Workers took part in a bank holiday trial.

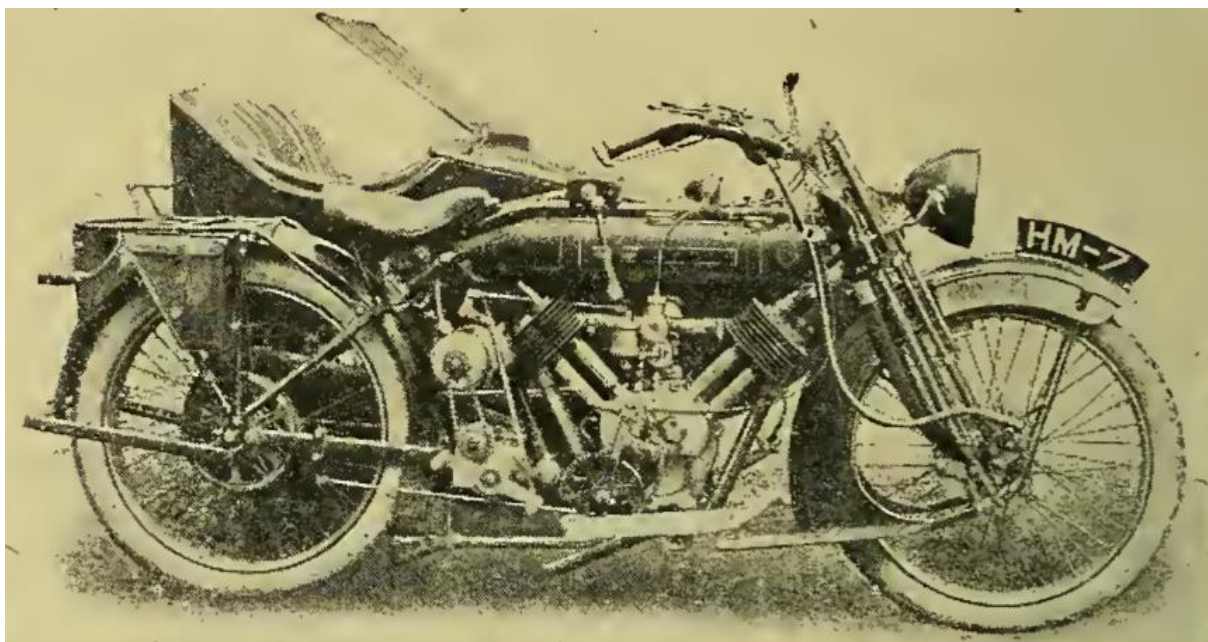
FROM IXION: "GOTT STRAFE ENGLAND! I possibly, suffer from the unenviable distinction of being the only Englishman whom the Germans do not hate! At any rate, I have just received news from a civilian interned in the big concentration camp at Ruhleben that he has read one of my articles reprinted in a German motoring journal, which referred to me in quite complimentary fashion." [The term "concentration camp" did not, of course, have the nightmare connotation it acquired under the nazis].



The 6hp P&M taking the bend on Combe Bottom. At the point shown the gradient is 1 in 5; the P&M climbed the hill twice in succession with a full load.

"UP TO WITHIN A SHORT TIME ago we had had very little road experience of the new 6hp (76mmx85mm) 90° P&M twin, but when the invitation was received from Mr B Marians to take an extended run in one of these combinations we accepted it with alacrity. It was as long ago as November 19th, 1914, that we described this fine machine, and since that period some little improvement has been made, but naturally as the whole of the firm's output has been taken over by the Government, very little attention has been devoted to the new model. At the present time it has reached the stage of almost complete finality, with the exception of the change speed gear mechanism, which still needs simplification. We may recall that the P&M four-speed gear box is a combination of the dog clutch gear and the well-known expanding P&M. The dog clutch gear merely serves the purpose of lowering the ratios of the P&M gear, and no matter whether the gear box is in use or not the expanding gear serves as a friction clutch on either of the speeds. The small lever shown on the tank in the illustration is drawn backwards so that the dogs are engaged. This means that the two lower gears are in operation. Therefore to start, the pedal on the gear box is kept horizontal; this puts the gear in neutral. To start, the pedal is pressed down with the heel and the drive is taken up on the low gear, while pushing forward the pedal engages the second speed, but to engage the third speed the pedal and the lever have both to be actuated at the same time. To engage the top the lever only is pushed straight forward, and the exhaust valve lifted or the throttle shut. The company is now engaged in designing a simple gate which will enable all these operations to be carried out by means of one lever. The chief modification in the machine in which we were taken out is the dynamo drive, which is taken off the layshaft of the gear box and is carried out in a very simple and efficient manner. A detail improvement has also been made in the actuation of the dog clutches; this is now carried out by means of a rack and pinion operating the worm which moves the fork in the gear box and shifts the dogs. The outfit reached the appointed place dead to time, and within a

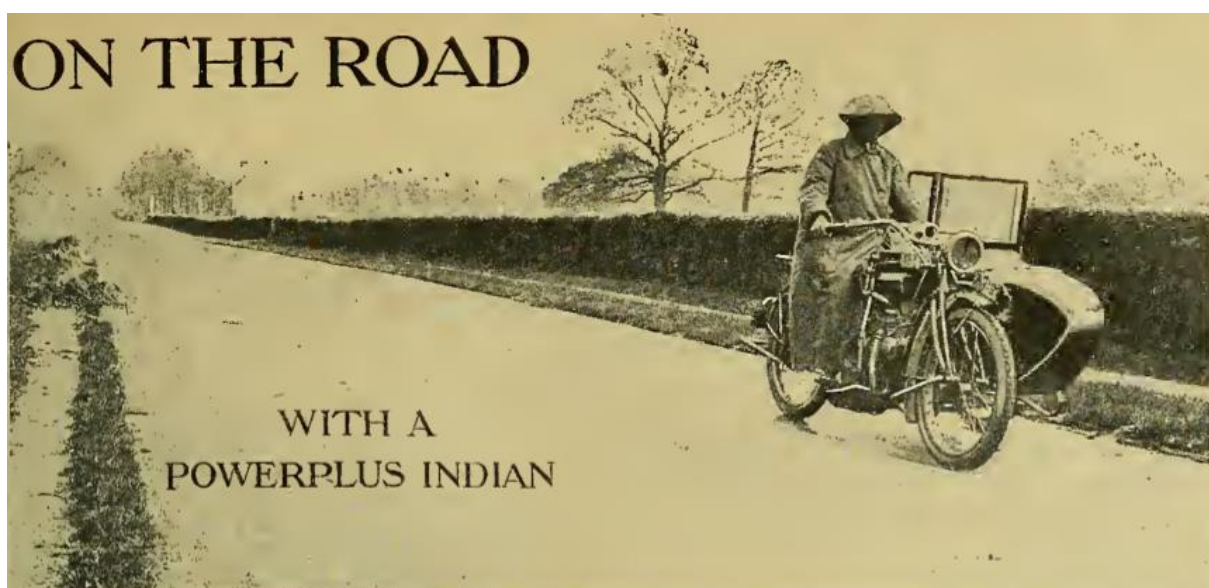
very few minutes we were ably piloted westwards out of London by Mr Chidley, one of the P&M demonstrators. Emerging from Roehampton Lane at Alton Road, which is quite a respectable gradient with a sudden approach, the machine astonished us by climbing on top speed, especially as it is a hill which calls for a change down on most motor vehicles. Kingston Vale is exceedingly rough, and over this surface we were pleased to note the exceedingly comfortable riding of the sidecar. The back possesses a very deep spring cushion; and the body itself is, moreover, suspended on very carefully selected C springs, which render the riding most luxurious; in fact, it would take a very expensive car to provide such comfortable riding as the P&M sidecar affords. Kingston Vale was taken at a very comfortable speed, and here we appreciated the even running of the engine and the absence of vibration. Our journey was continued along the main Portsmouth Road, past the Hut, and on through Ripley to the fork a mile from that village, where we turned to the left, and went through West Clandon to Newlands Corner, taking the hill which was the scene of the Army and Navy hill-climb last autumn. This caused another surprise, as the engine comfortably took



A sidecar outfit de luxe: The 6hp 90° twin P&M. This machine is not at the moment on the market, though it has been on the road eighteen months. Upon the conclusion of peace it will be offered to the public as a thoroughly tested article. Dynamo lighting, a four-speed gear, and oil enclosed chain drive are features.

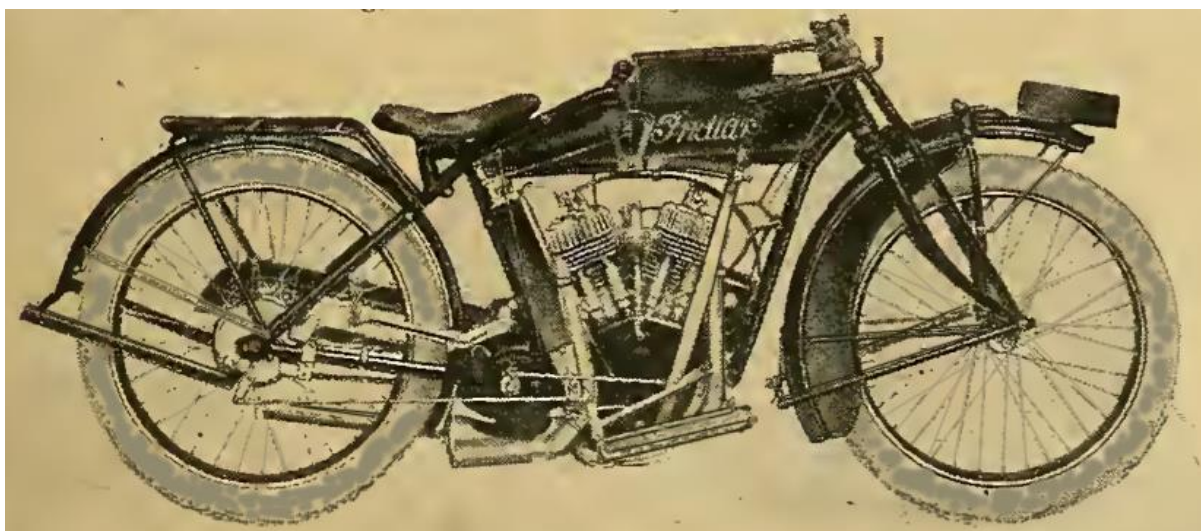
that quite considerable gradient on third speed, and accelerated well after the first bend had been negotiated. All the time we had been travelling against a very stiff north-westerly gale, but this happened to be more or less in our favour as we took the hill. Near the summit rain came down in torrents, and we stopped for shelter under some friendly trees. Here we met several wounded soldiers from an adjacent hospital enjoying an outing in the country. Two were walking, one was driving a pony chaise, when suddenly another pony chaise came hurtling down the hill 'all out' with the seat empty, and the pony apparently out of control. The pony made for the sidecar like a bull at a gate, but fortunately saw it in time and swerved to the left, missing a water cart by a hair's breadth, and bolted away out of sight. Its acceleration as the gradient increased must have been extremely rapid. What happened to it we know not. The incident evidently caused no little amusement to the one or two convalescent men who followed afterwards. We next made our way down the beautiful road which flanks the hill, from which the finest view in

Surrey can be observed, and, passing the Silent Pool, we made for Shere. At the entrance to the village there is a signpost pointing to Effingham and Leatherhead. Taking the acute angle curve we made our way up the country lane which ultimately terminates in Combe Bottom, a well-known Surrey test hill, which was included in the One Day Trial some three years ago. Even now it is not very well known, and it is quite a good test. The surface was extremely rough, and became worse as we got higher, and necessitated a change to third speed, especially as we had received a rather bad check at the bottom through meeting a herd of beautiful Jersey cattle. The surface, though rough and loose in places, was negotiable, but at the corner, just where the gradient is 1 in 5, the road was tolerably good, and the climb was made in excellent style on second speed. Here we stopped and took a few photographs, then continued over the high land and through the woods, whose winter sombreness was just beginning to be relieved by the vivid green of the budding larches. Then we joined the Leatherhead-Guildford road, following this as far as Effingham, where turning left again we met the Portsmouth Road, and stopped at the Hut for tea. Afterwards we took over the combination and found it to be exceedingly comfortable to drive, possessing ample acceleration, wonderful staying power, smooth running thanks to the excellent balance of the 90° twin, plenty of power, but not very much speed, though we must admit we did not attempt to push it at any time. It gave us the impression of being an exceedingly comfortable machine which was capable of keeping up an even pace all day and under all conditions. There is practically no slowing for hills, and the way the machine battled against the heavy head wind on the outward journey was quite a revelation. The position of the driver was comparatively as comfortable as that in the sidecar, and certainly the Lycett saddle on which we were seated was exceedingly well sprung. We found the change speed with the two pedals and lever not too difficult. The only real difficulty was the foot brake, which is placed on the near side of the machine instead of the off side, where we had been accustomed to find it with our old reliable 3½hp of the same make. Altogether it was an exceedingly enjoyable ride, and we found the machine, after practical road experience, to be in every way worthy of the famous firm which produced it. Although times without number the engine was allowed to slow down to such an extent that any ordinary engine would have konked itself to a standstill, the new 90° P&M twin stuck to it magnificently, and never a sign of a knock or konk could at any time be discerned."

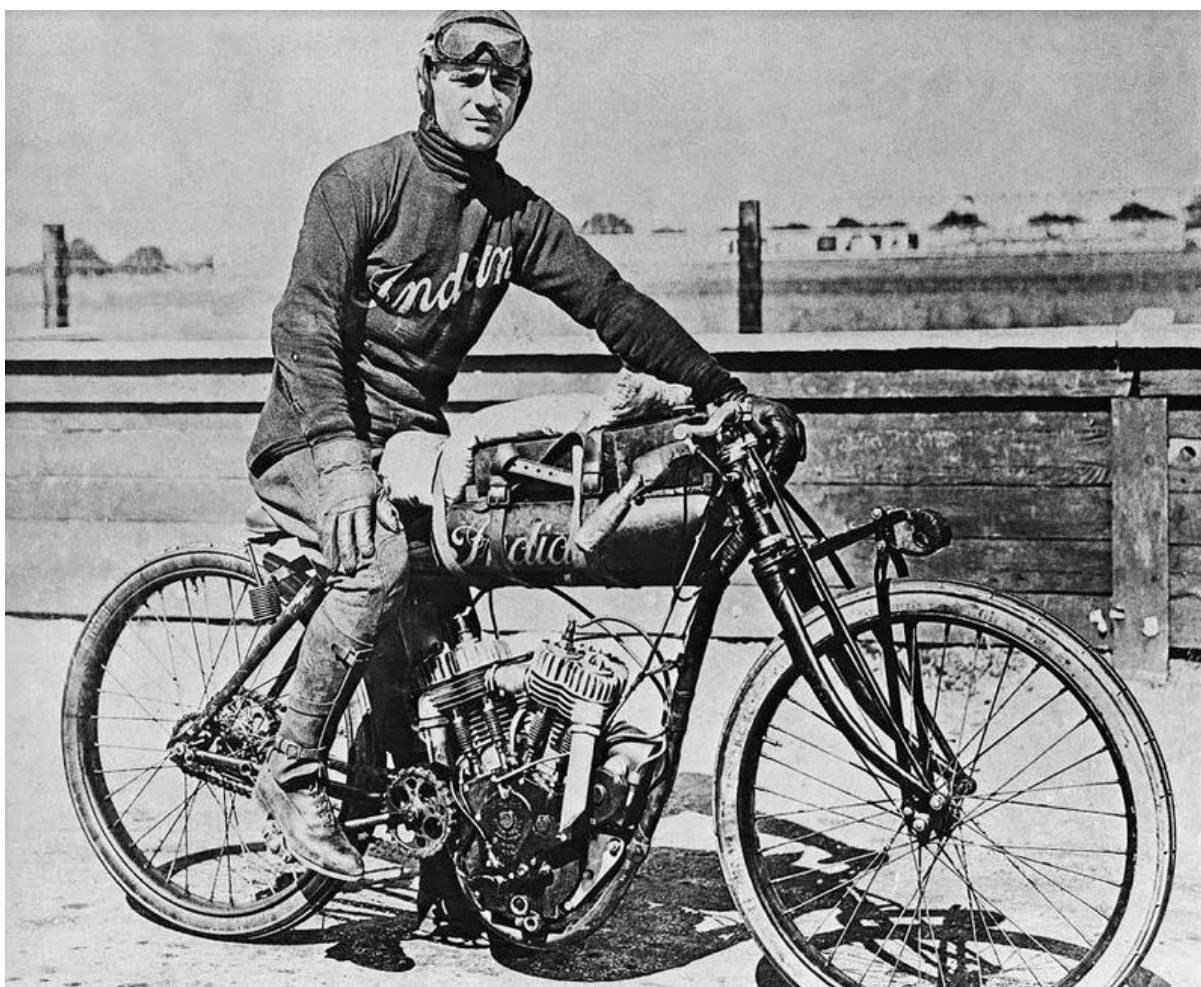


A fast stretch of road south of Dorking.

OUR FIRST RIDE ON THE 1916 Powerplus Indian was a very brief affair, consisting as it did of a short run through the traffic, up one of the Hampstead hills, and back again to Euston Road. The combination ran so well, and the new side-by-side valve engine appeared so sweet running and flexible, that we looked forward to an extended trial with this fascinating machine. The other day, while calling at Maude's Motor Mart, we happened to mention this to Mr G Pettytt, and he kindly suggested we should take out a slightly used second-hand combination of this type which he had for sale. Now it is one thing to drive a machine which is the manufacturers' demonstration mount, and consequently always kept at concert pitch, and another thing to take a chance second-hand model from a dealer's show room, as was the case on this occasion, and we were certainly agreeably surprised. This particular Indian was fitted with the Splitdorf magneto dynamo, which worked particularly well, and a most luxurious Mills and Fulford sidecar, to which was fitted an excellent Cape cart hood and a Dunhills windscreen with side shields, all of which tended to add greatly to the passenger's comfort. Our first drive was made to a small village near Aldershot, where we had a business call to make. It was a plain, straightforward run, and presented no difficulties, but it sufficed to demonstrate the excellence of the clutch and the ease with which the change speed could be manipulated. The clutch has a duplex control, and may be actuated either by the foot or hand. The latter method was seldom employed, as the leverage of the pedal had been well calculated, and the clutch operation was quite delightful on account of the small effort required to withdraw it. Many American machines need the clutch to be not absolutely in engagement to prevent 'snatching', but with the Indian this was unnecessary, as the drive was at all times quite smooth. It was in acceleration and hill-climbing that the machine particularly excelled, and owing to the splendid balance of the engine, which was as good as one could expect in a V twin, it was delightfully smooth running. We were also much interested to note the absence of valve clatter, which was due to enclosing the valve stems and guides and the abandonment of the overhead inlet valves. During the journey just referred to the most noteworthy performance was the climbing of the Hog's Back on top in the teeth of a south-westerly gale; the engine pulled magnificently, tackling the steep portion in excellent form and picking up rapidly when the gradient eased. Both on this occasion and on the next day we were particularly impressed by the cool running of the engine and the total absence of any knocking under any circumstances. Much bad road surface was traversed on both days, when the springing of the frame was much appreciated. The climbing of Reigate Hill on top speed was another feat which excited our enthusiasm. So far we have dealt only with the good points of the machine. To say that there was no fault to find would be an exaggeration, but we purposely refrain from the other kind of criticism, as the machine did not belong to the maker's London house. We may say frankly, however, that there was little with which we could find fault. Our second day's run was made in heavy rain, which, we are happy to state, in no way affected the ignition or lighting systems. Altogether we were most favourably impressed with the Powerplus Indian. **POWERPLUS FEATURES:** 7hp twin-cylinder Engine, 79x100mm = 990cc. Side-by-side valves. Three-speed countershaft gear. Spring frame. Dynamo lighting, mechanical pump.

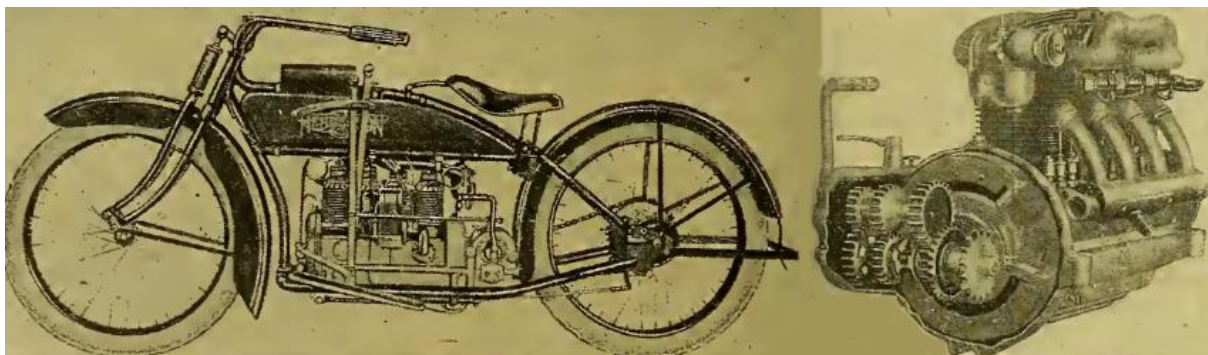


Indian's Model G Powerplus with its rigid frame and TT bars could fairly be described as a TT model but the 990cc sv twin was also ready for touring with a kickstart, three-speed box, stand, carrier, folding footboards and effective mudguards. It was rated at 7hp but had been measured on a dynamometer at up to 18hp.



A suitably equipped Powerplus certainly made an excellent fast roadster, with or without a sidecar. But this example, pictured at the Ascot Park Speedway with Indian factory rider Bill Church, looks like a bit of a handful.

WE HAVE RECENTLY BEEN ABLE to sample one of the few 1916 model 8-10hp Hendersons at present in this country. Although the present engine has a cubical capacity of 978, and the cubical capacity of last year's model was 1,065, we cannot say that we noticed any difference in power. The great charm of the four-cylinder Henderson is its extreme flexibility, which permits one to crawl on top speed without slipping the clutch almost at walking pace. From the latter speed the engine will accelerate to almost any degree, and a wonderful acceleration it is. Up to about twenty-five miles an hour the engine is quite imperceptible, though at speeds over that there is a slight tremor, which, though noticeable, is not unpleasant. A share of the credit for the ample power, flexibility, and acceleration is due to the excellent Schebler automatic carburettor with which the 1916 Henderson is fitted. All one can find fault with in the Henderson is its weight, a point not noticed when the machine is started, but one which renders it somewhat awkward to handle while wheeling it about. Another point open to improvement is the kick starter, which does not appear very strong and does not give sufficient surface for the foot. On the occasion when we took over the machine the engine started on the third kick, but it did not behave quite so well in our hands, and eventually the pin of the kick starter broke. The engine thereafter was started by pushing the machine along with the low gear in and the clutch out, then engaging the clutch with the hand lever and quickly declutching it again. In the open country the Henderson's acceleration was exhilaratingly glorious, and, although no opportunity came of letting the machine out on the road, we had a very good inkling of the speed it would attain. On hills it was a real joy to drive, and would take quite respectable gradients at a fast speed, slow down at corners, and then quickly pick up again as if the road were level. The excellent saddle, which properly fitted the body, hinged at its forward end and its rear end suspended on coil springs, was delightfully comfortable, and further comfort was due to the 28x3in tyres.



“On the 1917 model Henderson (just introduced in the States) the chief feature is the adoption of a three-speed countershaft gear.”

THE INDIAN AND THE HENDERSON were familiar sights on British roads but another US-made bike which might well have given them a run for their money was to disappear from the sight of man for half a century. A company in Chicago built a prototype motor cycle and named it the Traub. The 1,278cc sidevalve V-twin engine was made in-house and, according to Dale Walksler of the Wheels Through Time museum where the Traub now resides: “Everything inside the engine is just magnificent. The pistons are handmade, and they have gap-less cast iron rings. The engineering and machining are simply years ahead of their time.” Apart from the heads no gaskets are used. Proprietary components include Indian forks, a Schebler carburettor, Bosch mag and Troxel seat. Unusual features include two neutrals between second and third gears as well as first and second, and a dual-action rear brake system—a single cam actuates internal expanding shoes and external contracting shoes. You’d think the Traub would have had a bright

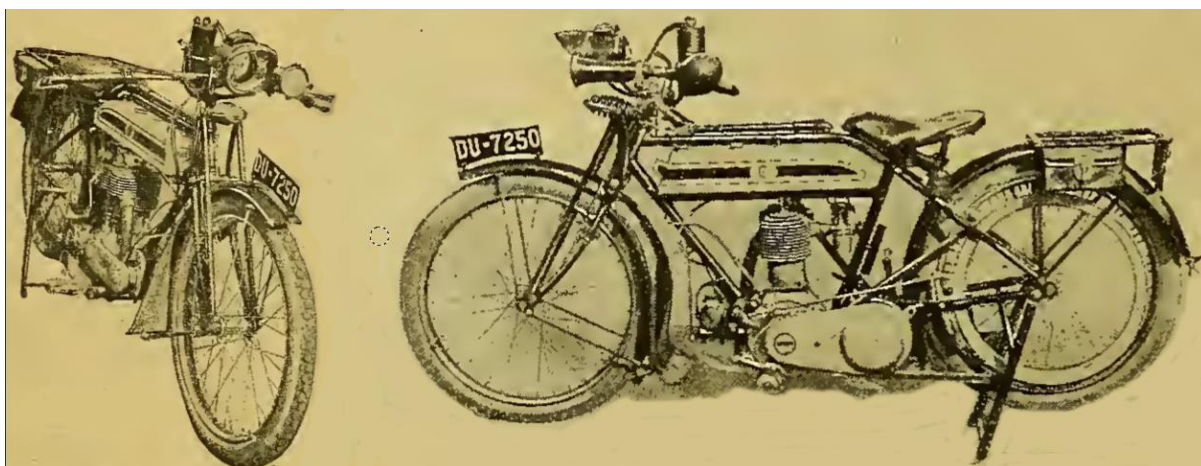
future but the prototype was nicked and that seems have ended the project. Legend has it that the joyrider's dad, alarmed at the likely consequences, walled the Traub up in a porch he happened to be building and there it stayed until someone tore the wall down in 1968. In 1972 it was bought by Bud Ekins, famous as Steve McQueen's stuntman; Ekins sold it to collector Richard Morris, who passed it on to Wheels Through Time in the mid-90s. The Traub has been restored to full working order: one more might-have-been.



The only Traub ever made was to spend half a century behind a brick wall.

1,500 MILES WITH A 1916 TRIUMPH.
Road Experience of a Machine identical with those used by Despatch Riders.

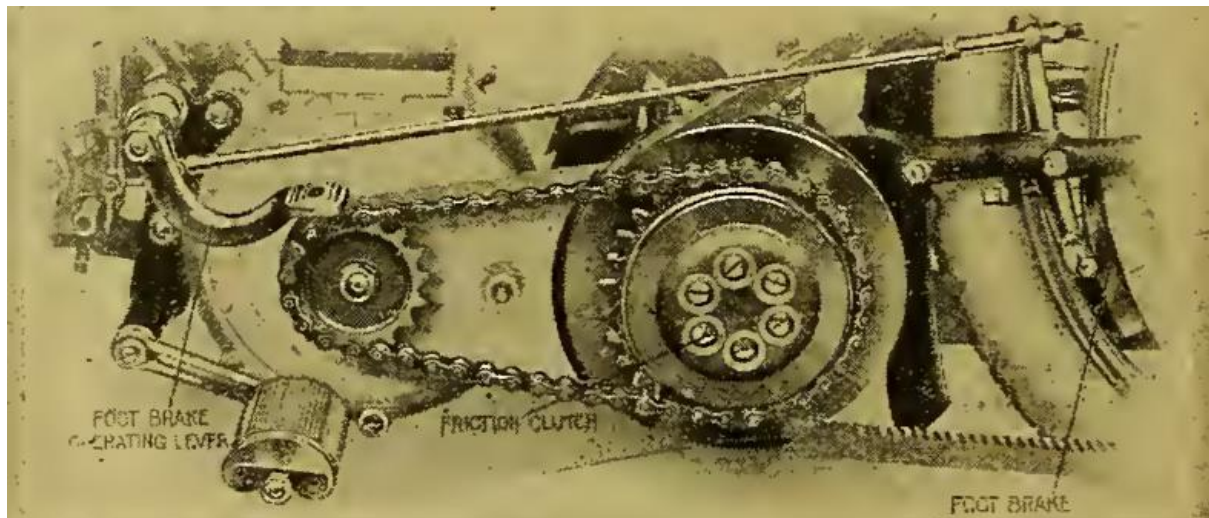
“NO MATTER WHAT THEATRE OF WAR a British motor cyclist may visit, there he will find motor cycles rendering yeoman service, scurrying hither and thither with important despatch. And just as certain as one is to find motor cycles, one will see the Coventry-made Triumph, a machine represented in its thousands throughout the different war zones, as a result of continuous productive effort on the part of the manufacturers since the outbreak of war. During the spring and summer it has been our good fortune to possess a 1916 model Triumph, so that we are able to speak of it from personal experience. It has huge flat bars just as supplied to the Army, and the riding position provided by these Semi-TT bars is very comfortable, but, above all, increases appreciably one's feeling of safety and controllability over the machine. On long runs,



The 1916 model 4hp Triumph: Just as delivered to despatch riders apart from the khaki paintjob.

however, a touch of back-ache is not unknown to riders who are not out regularly. The 4hp Triumph of 1916 is practically identical with the 1915 design, detail improvements only having been effected. For many years the Triumph Co pinned their faith to the 'square engine', a bore and stroke of 84x86mm and 85x88mm having been retained for a considerable period. But a couple of years ago an entirely new design of long stroke engine was adopted. The capacity of the new engine is 550cc, the bore and stroke being 85x97mm respectively... In every respect the engine is more sturdy and substantial than its predecessors...The 1916 Triumph is not excessively fast—for that matter, it is geared too low to show up its best paces. The real merit of the latest Triumph is in its ability to maintain a high rate of speed without complaint and without trouble ensuing. High averages on the old 3½hp models were possible, but sooner or later a valve gave out, and, drive you never so cautiously, a hill would be encountered which would suddenly slow the machine and cause excessive knocking. The difference with the 'four' is that one may punish it severely, and yet, after the end of a fast non-stop run, accelerate speed on a really severe hill and fly over the top with the greatest ease...In addition to the new type engine, 1915 marked another real departure in Triumph practice, and that was the adoption of combined chain and belt transmission and the fitting of a countershaft gear. Thus transmission troubles were swept aside, for with large diameter pulleys belt breakages are entirely unknown (the belt is a 1in section), and the enclosed chain is well able to look after itself...The Triumph carburetter is a magnificent instrument. It enables consistently easy starting—indeed, we have amazed many riders who have been in trouble at different times with engines that start sluggishly by the manner in which our machine has started from dead cold at the second push of the pedal...At all ordinary speeds the new Triumph holds the road beautifully, and, thanks to the excellent clutch fitted to the Sturmey-Archer gear and its convenient method of operation by lever on the left handle grip, one may pursue a tortuous course in traffic with every feeling of safety. On the open road there is something very nice in being astride a powerful machine. Twenty miles an hour with the throttle but a quarter open, and the engine longing to be let out, as proved by the way it jumps ahead when the throttle lever is opened but a fraction. Devouring hills on top gear is probably the most exhilarating experience, and one can indulge in any amount of this sort of thing without complaint from the engine...Occasionally one yearns for the comfort of a spring frame, for our roads are deteriorating at an alarming rate, due to the abnormal traffic in certain centres and the small amount of road repair work now possible. In consumption our Triumph has gradually improved. Originally it did 65mpg, but latterly, on summer roads, the figure has been nearer 80...The various changes of speed are effected with remarkable ease, though we are not surprised that despatch riders have adapted the gear

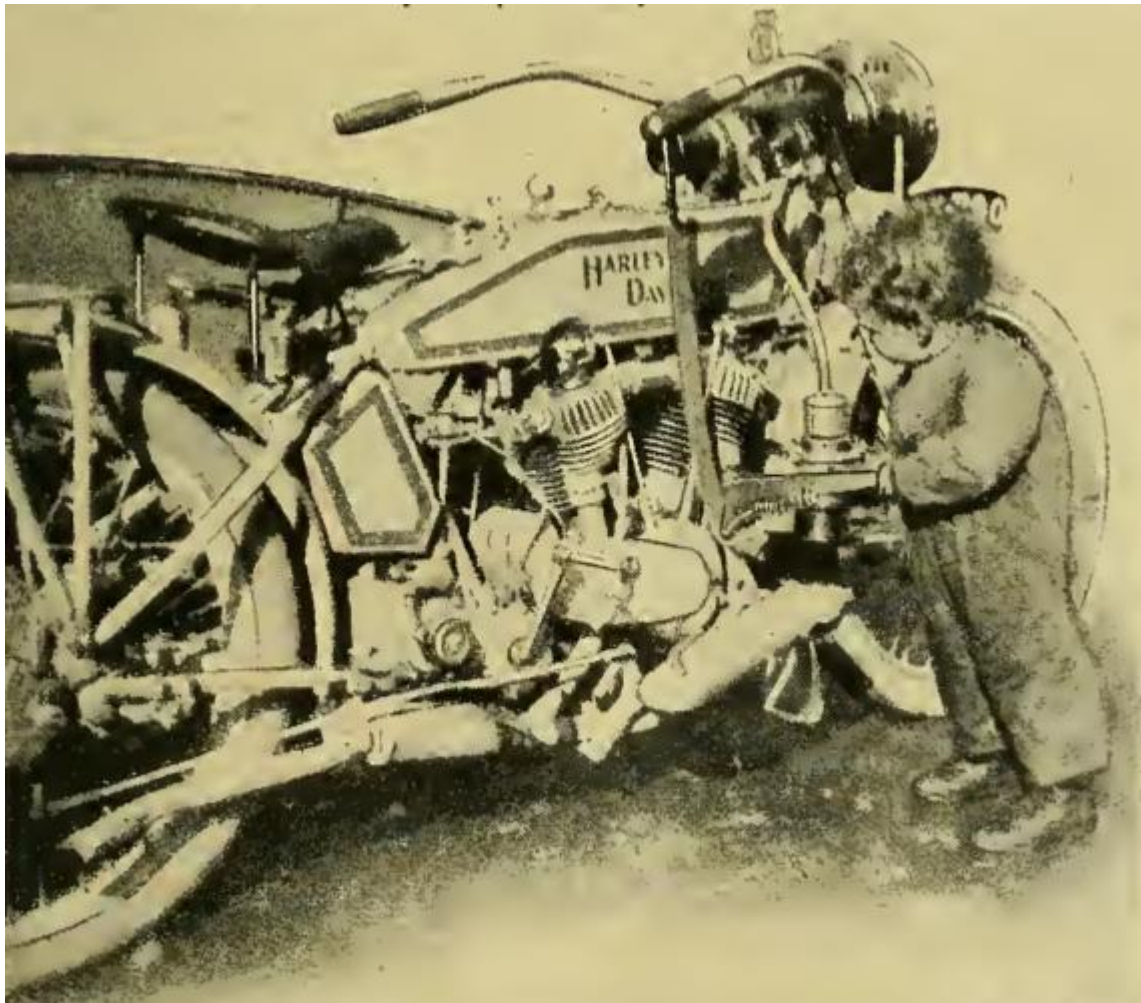
control to be operated by the foot, for in the top gear position the knob-ended lever is apt to chafe on



“An enclosed chain conveys the power to the three-speed SA countershaft gear.”

the rider's thigh...Our experience with the Triumph extends to about 1,500 miles, including some fast work. For that matter, what is the use of a steady 4hp mount built for speed, and with dropped handle-bars too, unless one may be allowed to toy with the throttle lever? One run of sixty-two miles along the Fosseway in pouring rain was accomplished without a dismount. Only once has the engine ceased firing involuntarily, caused by the waterproof terminal jumping off the sparking plug due to striking a pot-hole violently at speed...By the way, one day we had rather a shock. Not having had occasion to use the lamp and generator set, and assuming that all was well, seeing that the machine is a duplicate of those supplied to the War Office, we had not observed that the King of the Road lamp was of the swivelling variety, and rendered it liable to confiscation and the rider to be fined. The experience is all the more amazing as the War Office Clynos have exactly the same type of lamp (supplied to War Office specification), and recently the High Wycombe police authorities distinguished themselves by stopping one of these khaki-finished machines, seizing the lamp and fining the driver.”

“DURING LAST WEEK WE drove two sidecar combinations—one British and one American. The Britisher had a semi-automatic lubrication system and a two-lever carburetter which was most difficult to throttle down. The American mount had completely automatic lubrication, to which we did not have to give a thought, and a splendid automatic carburetter capable of an infinite amount of external adjustment when required. Needless to say, we unfortunately preferred to drive the latter. English manufacturers must wake up.”



“Doing his bit! The three-year-old boy of a Sidmcuth motor engineer who insists upon helping to carry on the business during his father’s absence on war work. With a spanner nearly as large as himself, the little boy is attaching a lever to the brake pedal which he is unable to reach with his foot.”

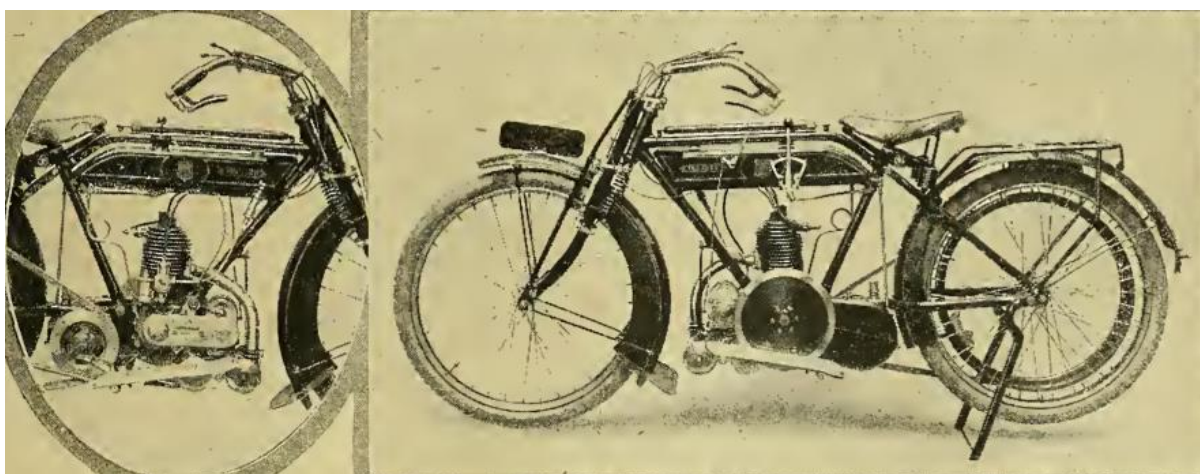
“MOTOR CYCLES IN THE MEXICAN CAMPAIGN: Judging by our Chicago contemporary. Motor Cycling and Bicycling, the great source of trouble with the motor cycles attached to the United States force operating against [guerilla leader Pancho] Villa is the lack of good riders. The desert tracks have caused their share of trouble, but the average man put in charge of a USA military motor cycle appears to be an absolute ‘dud’. One would have thought an appeal for expert motor cyclists to act as despatch riders for the duration of the campaign would have resulted in better service being obtained from the machines that the USA military authorities have recently purchased. There are thousands of keen, young Americans who would jump at the opportunity.”



“R

Escalé (6hp Enfield sidecar), winner of the sidecar class in the Carrera Cup trial, held in the neighbourhood of Barcelona over a distance of seventy miles one day last month. Second and third places were secured by Motosacoche and Indian riders respectively.”

“THE RAC HAS CONDUCTED AN exhaustive enquiry, which proves conclusively that pleasure motoring has practically ceased to exist. This, for the most part, refers to cars, but the principal motor cycle clubs have also been consulted. The returns from the garages all over the country show that if all private motoring were banned the number of men released for more useful work would be negligible.”

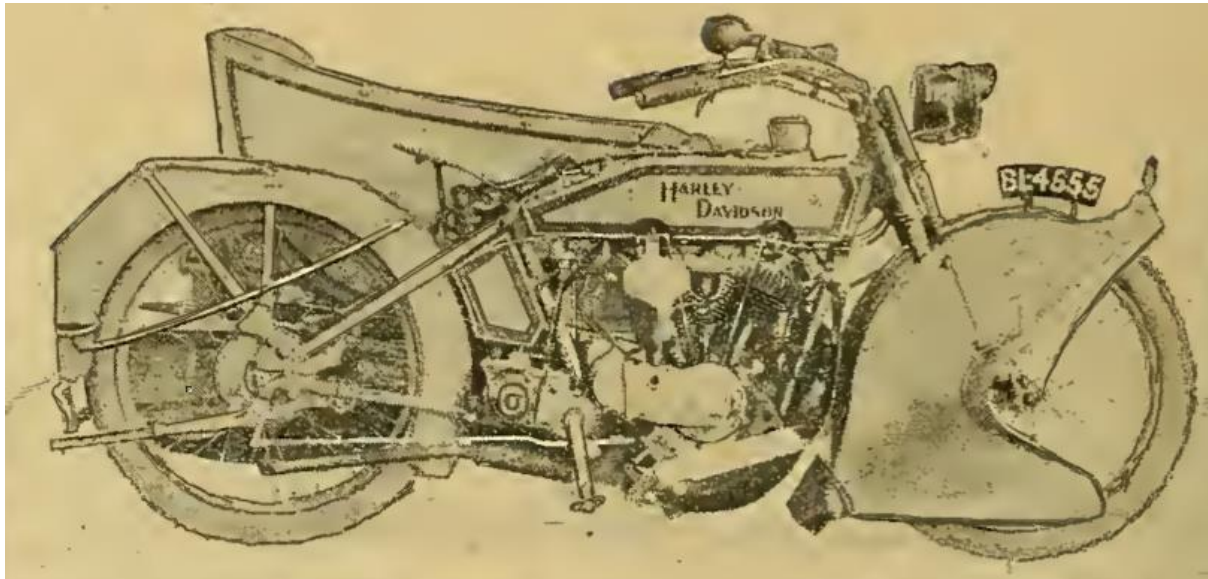


Recently we had an opportunity of inspecting the latest model 2½hp Juno at the premises of the Metropolitan Mechanists' Co, Bishopsgate, EC. Its motive power is a 2½hp Villiers two-stroke engine, and the drive is by the usual combined chain and belt to the back wheel. An Albion two-speed gear box is fitted. Lubrication is effected by means of a Best and Lloyd sight drip feed,

from which the oil drips by gravity to the induction pipe. The machine is well equipped, having a separate spark control and Brooks B150 saddle, a good luggage carrier, and also a metal cased toolbag.

“THE DISTURBED STATE STATE of affairs in Ireland [the Easter rising] is likely to result in the abandoning of the majority of the motor cycling competitions which were to take place this year.”

WHEN THE MOTOR MACHINE Gun Service was first formed it was known as the ‘Suicide Club’. The Armoured Car Section of the MGC is now popularly referred to in the camps as the ‘Hush, hush’ section.



WAIGH'S PATENT MUDGUARDS, pictured on a Harley, were made by the Kumfurt Motor Cycle and Accessories Co, of Cookham, Berks to suit any make of motor cycle. Some manufacturers planned to fit them to order on new machines. The idea was to allow professionals such as doctors to remain clean and presentable.

“IDEAL SPRINGTIME WEATHER AND SPRINGTIME spirits marked the first munition workers’ holiday on the Lakeland heights. If ever there was an occasion when pleasure motoring was justified in these warring times, surely this was one of them. Jaded workers from the whirring machine-shops of West Cumberland—where, especially in the aircraft section, work proceeds at fever heat night and day—came forth into the pure air and pure delight of trying their motor cycle mounts against the mountains...It was obviously to be a record gathering of its kind, and there were thrilling moments on the way. One was all eyes and ears at every meeting of the byways, for lost riders were hurrying to make up lost time. Some never arrived until evening when all was over. The writer had come over from Kendal on a lusty AJS sidecar outfit driven by Harry Whinnerah, a celebrated hill-hunting character in



“A group of munition workers near the foot of the Stoneythwaite Rake. The group includes the successful riders in the hill-climbing expedition.”

these northern dales. George Braithwaite, the expert competition rider of the peaceful, palmy days of trials galore, gave us the doubtful benefit of his dust. We followed his trail over Underbarrow, Gummershow and Gawthorp Moor, and through Broughton-in-Furness to the sharp, right-hand turn up Duddondale at Duddon Bridge. In the end, the Rake and Walna Scar proved quite sufficient for a full day's sport, and one of the best withal...With the munition men victimised by the hill-hunting fever, the Rake itself occupied all attention. There was much excitement as we approached the foot of the climb, and everybody was gazing skywards almost in the correct Zeppelin attitude. The attraction was soon obvious. Far above us the grey line of roadway curled out of the larchy underslope up to a gap in the skyline between huge purple precipices and a pale khaki-coloured speck of life was moving slowly aloft threading the perilous zigzag heights with a tiny white wisp of cloudlike smoke following its passage. It was George Brailhwaite on his small Royal Ruby machine, the first man up the hill, and, as later events proved, the man to make the best and easiest ascent...Stoneythwaite Rake must rank as the worst hill in Lakeland, with its six difficult corners and stone-strewn gradients, where 1 in 3½ is the prevailing incline...Several of the ascents were thrilling for the spectators...Stanley Bewsher made an exceptionally fine climb on his big, single-g geared 8hp Bat...JG Bethwaite on 7hp Indian was most astonishing; probably he frightened everybody except himself. Time after time those up aloft heard the heavy roar of the engine, and finally the hero of many a despatch-riding adventure appeared round the bend close below. The powerful Indian was bucking and plunging like a wild cart-horse held in a leash. For an instant the rider forced it in the straight upward way. But the approach to the 'hairpin' was refused. After a fearsome swerve, suddenly, and amidst a noisy, dusty uproar, machine and rider dashed off the road into mid-air. There was a startled cry from the spectators, a lucky click by the camera man, and everybody pressed to the rescue. The rider and machine had fallen seven or eight feet on to a soft bed of old bracken, which might almost have been placed there for their special reception...After refreshments at the New Field Inn—which, under its new management and with its fascinating surroundings, motor wanderers would do Avell to remember—an attack was made on Walna Scar...The successful ascent by Harry Whinnerah on the 6hp AJS standard sidecar machine was a meritorious



From left: "Climbing Walna Scar above Duddondale, a remarkable new hill first climbed by the munition workers. The road is grassy and steep, and ascends for two miles to over two thousand feet above thesea. The Indian jibs at the middle 'hairpin' on a gradient of 1 in 3—The rider JG Bethwaite and the machine fell into the ditch! The AJS sidecar driven by Harry, Whinnerah, a one-armed expert, at the top of Walna Scar, the highest point in Lakeland reached by a sidecar."

performance, and one that is likely to rank as a record for a considerable time. It needs some familiarity with precipices close at hand, or at wheel, to drive a two-tracked machine for half a mile with one tyre two or three inches from the edge of nothing...Under damp conditions the climb would be impossible. Such were the writer's impressions as he clung to any available hold on the AJS behind the plucky driver who, despite the physical loss, can do more with one arm than most men with two. Our worst trouble was in 'Slate Tip Gulley', as someone named the half-way obstacle. Our mighty dash into the sliding mass flung the machine and its load broadside off the track into a grassy hummock, where part of the frame became embedded. Another attempt at slower speed and kind help from some 'hefty' munitioners landed us on to the grassy slopes which finally led to victory. This climb to a height of 2,100 feet above sea-level will rank as the highest point yet reached by a sidecar in the Lake District. The man who can pilot his machine over such heights as Walna Scar need fear no roads in France or on the rugged heights of Serbia..."



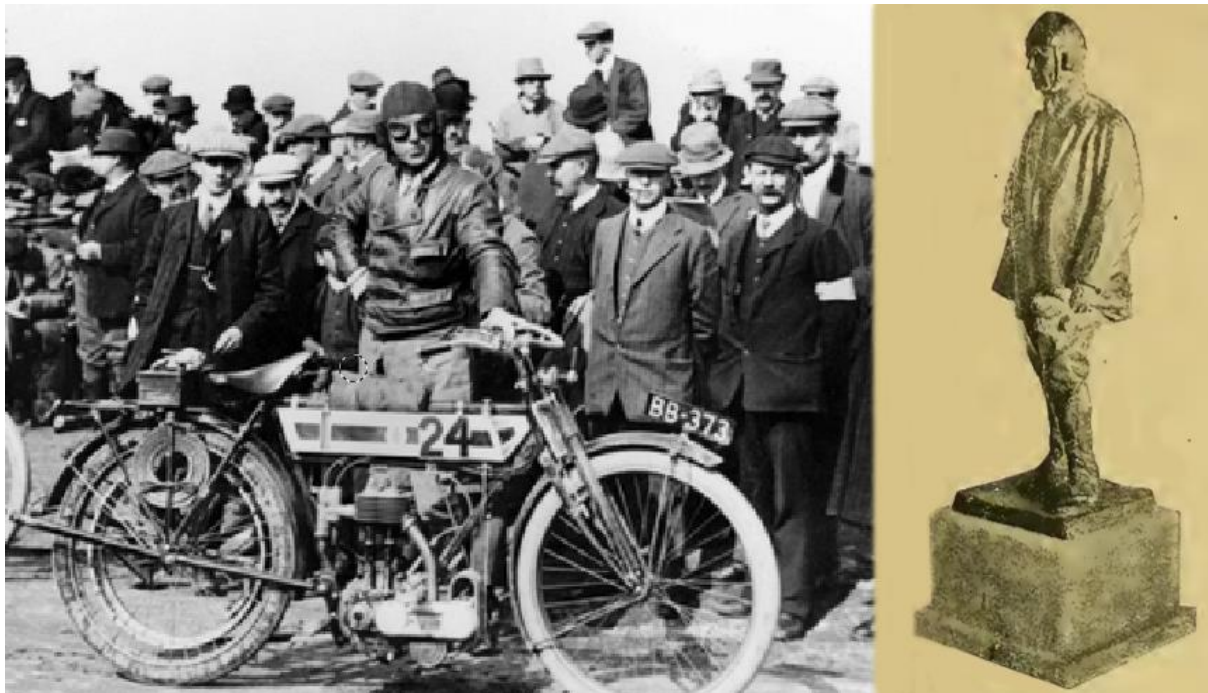
Fifty Harley outfits, including one ridden by Walter Davidson, took sailors wounded at Jutland on an outing from Westminster Abbey to Lord Northcliffe's bijou country estate. This was a particularly high profile event but combos were being used all over the country to take recovering servicemen on sprees.



One of many runs for wounded soldiers started in Thornton Heath, Surrey; “Mrs Richardson with a big load— good test for the 6hp Enfield.”

“THE WHOLE BRITISH MOTOR CYCLE COMMUNITY will mourn the loss of one of its most distinguished members, Rear-Admiral Sir Robert Keith Arbuthnot, Bart, CB, MVO, who perished with all his brother officers in the Defence in the great naval battle. He was fifty-two years of age, had seen nearly forty years’ service in the Navy, and was one of our most able senior officers. No better all-round sportsman ever rode a motor bicycle. He thought cars only fit for women and invalids, and considered that the sidecar spoilt a motor bicycle. Sir Robert’s affections were purely for the fast solo mount. Few people realise what he did for the movement, but that he did it an enormous amount of good is an undoubted fact. He became a devotee just at the time when motor cycling needed all the encouragement it could get.” As well as a third place in the 1908 TT Arbuthnot won gold awards three years running in the Edinburgh run. He generally sailed with his Triumph and Douglas on board and regularly entertained his fellow enthusiasts on board the ships he commanded. The Blue ‘Un concluded: “We have lost a dear and valued friend with whom we have spent many joyous days both in England and France, and also one glorious week-end at sea. The nation can ill-afford to lose such men as he, who died as he would have wished with his face to the enemy, his beloved ship his coffin, and the boundless ocean, on whose bosom he had spent his life, his grave.” (*Fast forward a few weeks*): “It has occurred to us that a fit and proper way of perpetuating the memory of the late Sir RK Arbuthnot, Bt, CB MVO, would be that the Auto Cycle Union, of whose committee he was an active member, should put up a challenge cup, to be known as the Arbuthnot Trophy, to be competed for by officers of the Royal Navy. We do not, of course, suggest that the competition would be held until after the war.” Within weeks over £180 had been raised (worth more than £11,000 today) helped by donations from the ACU, RAC, Siegfried Bettman and Mauritz Schulte (Triumph), Hendee (Indian), the Gloria Co, *The Motor Cycle*, Temple Press (*Motor Cycling*), P&M,

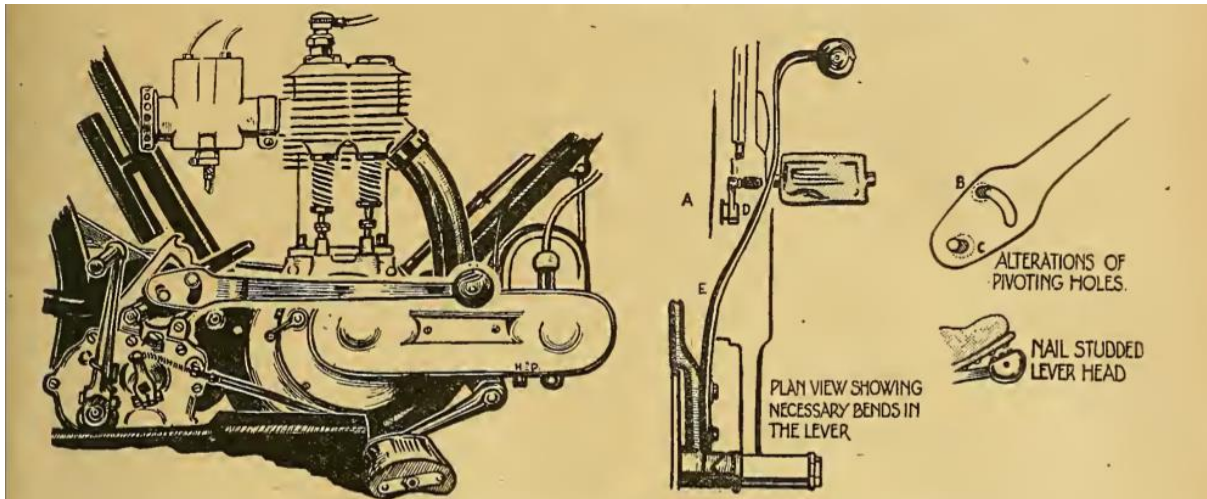
Triumph, (Triumph), BSA, Humber, Douglas, Zenith, Brown Bros, Rudge-Whitworth, Norton, ABC, Enfield, Matchless, New Imperial, Godfreys and Lucas. "Steps will shortly be taken to have the trophy made, which will take the form of a statuette of the late Rear-Admiral in undress naval uniform, and is to be competed for in an annual motor cycle competition, open only to naval officers." The Arbuthnot Trophy Trial was established in 1919. It faded away in 1937 but was relaunched in 1982 as an annual reliability trial for British vintage and classic motorcycles, open to all-comers, even land-lubbers. The Admiral would be pleased.



"The outcome of a suggestion of a member of the staff of this journal that the memory of this gallant motor cyclist should be perpetuated by means of a trophy to be competed for annually by officers of His Majesty's Navy...The work of executing the statuette was entrusted to that well-known sculptor, Lady Scott, who was a pupil of the eminent French sculptor M Rodin, and widow of the late Captain Robert Falkland Scott."

"ON MONDAY LAST, AT WEST BROMWICH, a motor cyclist was fined 20s for riding to the danger of the public. The police alleged that defendant was travelling at 20mph and turned a dangerous corner without slowing down. Defendant said his machine was an old one, and he was prepared to let the policeman ride it, and if he could get 20mph out of it he would give it to him. Apparently this sporting offer proved of little avail."

"MOTOR CYCLING IN THE EAST INDIES: Roads in Sumatra and Java are excellent, especially in the latter island. Java is more highly developed than Sumatra; there are over 10,000 miles of good roads. The latter, combined with beautiful scenery, make motor cycling very delightful."



“Riders, and particularly British despatch riders on service, will be interested in the following suggestion for converting to foot control the usually hand-operated Sturmey-Archer countershaft gear lever fitted to the more recent models of the Triumph, as the need for retaining a firm hold of the handle-bars with both hands, when riding on the war-worn roads of France and other districts of military occupation, is of paramount importance. Referring to the sketches, it will be seen that the operating lever is bent at two places, viz, at right angles near the wooden grip knob and outwards at E, to clear the decompressor lever D. A flat face is cut on the wooden knob and studded with nails to prevent undue wear. The holes B and C, on which the lever is pivoted, are enlarged.”

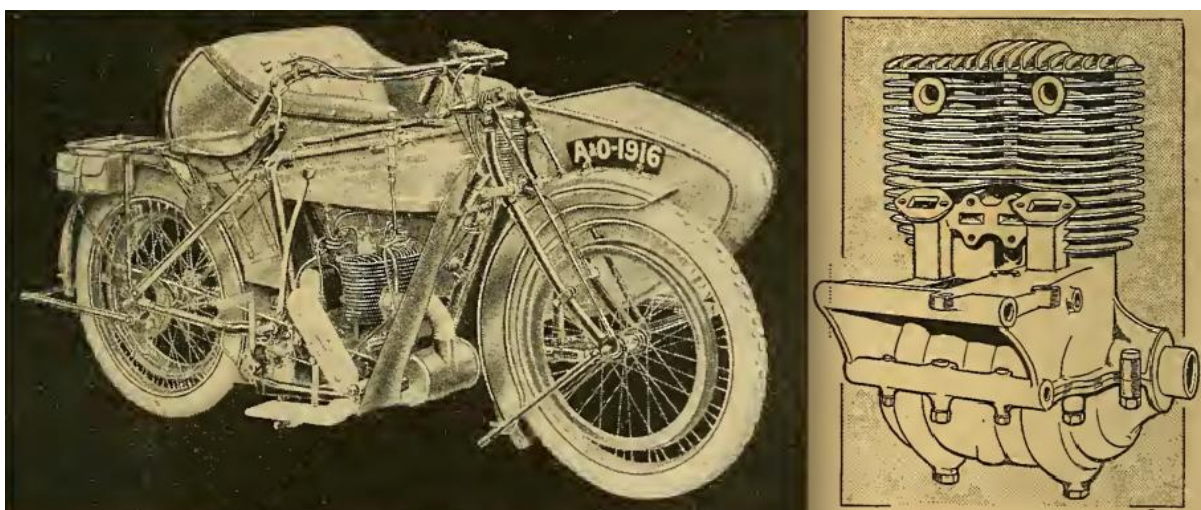


“The limit in overloading: (From left) 4hp 1916 model Triumph sidecar with eleven men aboard. (Right) Solo Triumph with seven men; the machine has actually climbed Stoneleigh Hill, Warwickshire, as shown, and when the top was reached it was found that only one man had been dropped.” Triumph factory testers keeping their feet dry.



A Triumph could carry seven men along the ground, or one man into the air.

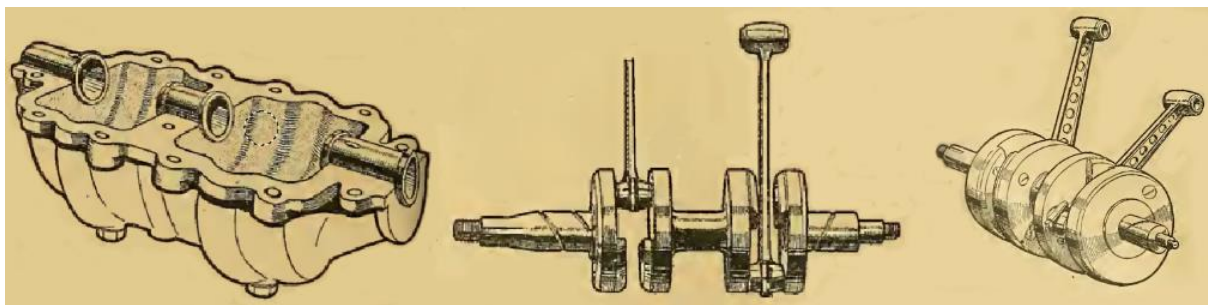
“THE APPEARANCE OF A NEW TWO-STROKE machine of the single-cylinder type is nothing unusual nowadays, there being different makes innumerable, but the twin-cylinder machine has been left severely alone by most makers, and it remains for a few firms, given to much experimental work, to introduce a novelty of this kind. Messrs Alldays and Onions, of the Matchless Works, Birmingham, have now in course of manufacture an excellent model of the twin type. Their light- weight single two-stroke Allon needs no recommendation. It is very well-known, and when it is said that the new twin incorporates all the workshop and road experience gained with the lightweight, coupled with the usual first-class workmanship which characterises the products of this factory, it will be readily understood that the new



“The new 5-6hp 584cc Allon as a passenger machine. Robust construction, neat design, and excellent mudguarding are points that appeal. General view of cylinder casting and crank case of the new 5-6hp two-stroke twin- cylinder Allon.”

model is a really good thing. There are practically no additional complications, and it is in effect merely a doubling of the single-cylinder with necessary alterations to details. Following the usual Allon practice, the two cylinders and the upper half of the crank case form a one-piece

casting, in itself a clever piece of work. Each cylinder is of the three-port type, bore 70mm, stroke 76mm, the pair giving 584cc and rated at 5 to 6hp...the machine was run in 'free' at varying speeds from normal to high for a space of over five minutes, it yet showed no signs of distress, and would have run no doubt for a much longer time without trouble...Transmission is by heavy chain to a three-speed counter-shaft gear box, and thence by 1in belt, over large pulleys, to the usual belt rim. The clutch is of the cork inset type, controlled by grip lever and Bowden cable from the left handle-bar alongside the valve release lever. The front brake is hand applied, and works in a V rim. The rear brake is on car lines, internal expanding metal-to-metal, operated by foot lever...Mudguarding is well looked after, and a neat guard over the top of the belt rim will no doubt go far to keep the belt free of mud. If we may offer a suggestion, it is that a good wide undershield, preferably in one piece with the leg shields, would add to the general appearance, and effectively combat the mud nuisance...a short trip on the out-skirts



"Detachable crank case with phosphor bronze bushes in place. The Allon crankshaft from two aspects, with balance weights attached."

of Birmingham served to show the Allon's paces, and, despite the fact that, like the usual works test machine, it had been severely handled with a consequent loss of tune, yet it easily pulled a heavy sidecar and a twelve stone passenger at a speed which was quite fast enough for safety. A speed of 30mph was easily maintained at half throttle, and its limit is probably in the neighbourhood of fifty miles per hour. The exhaust produces a remarkable drone, not excessively loud, and like nothing else but an aeroplane engine, the unusual note attracting attention; it was amusing to come across people staring into the sky, and to see their surprise on finding that a motor cycle was the cause of the familiar hum. The handle-bar clutch control was particularly useful in traffic dodging, and the machine is practically no more difficult to manage than an ordinary two-stroke lightweight. The kick starter is very efficient, and the engine never once failed to start at the first kick. It is fairly economical; sixty miles per gallon can be obtained with the sidecar attached. Only a few test machines are running at present, but the model will be on the market almost immediately; in fact, a number of the first orders are about to be completed, and in a few weeks time many of these interesting machines will be seen on the road. To the man who hankers after the simplicity of the two-stroke lightweight, coupled with the reserve power necessary for sidecar work, it is just the thing."



“The big single-cylinder four-stroke 4hp Alldays-Allon, chain-cum-belt drive and countershaft three-speed gear, 86x95mm=552cc. Transmission is by chain to a three-speed countershaft gear, and thence by 1in belt.”

WE OFTEN CHRONICLE THE DOINGS of motor cyclists in Western Australia, Victoria, NSW, and South Australia, but seldom anything is heard about the pastime in the great north-eastern State of the Commonwealth. There is a motor cycle club of Queensland that holds regular competitions, though as a result of the war these have been reduced in number. A reliability trial was held recently, the winner being NG McNeil (3½hp Rudge).

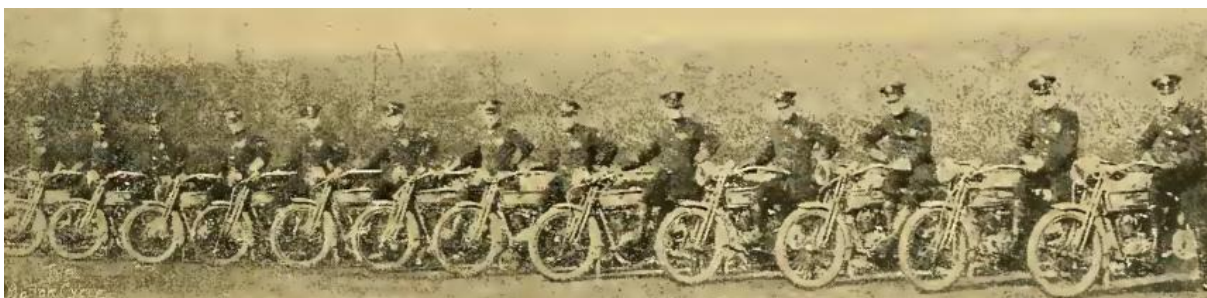
“THE ANNUAL 300 MILE motor cycle race was held at Dodge City, Kansas, on a dirt track of two miles to the lap. The event attracted a crowd estimated to number 20,000 or more. The race was won by Irving Janke, on an eight-valve racing Harley-Davidson,” Janke completed the 300 miles in 3hr 45min 36sec to average a US record of 79.5mph . On the same day another eight-valve Harley, ridden by Red Parkhurst, clinched the two-mile US championship with a win at the Sheepshead Bay track in Brooklyn.



'Shoeless' Irving Janke (number 7) is clearly pleased with his record-breaking Dodge City win. His Harley team-mate Ray Weishaar (number 7) finished third.

"THE MOTOR CYCLE RECRUITING SECTION: This section was instituted with the sole object of assisting readers and directing them to the many different branches of the Army and Navy for which their special knowledge suited them. At the outbreak of war numerous letters reached us (and continue to arrive) from men at home and overseas possessed of motor engineering knowledge, explaining their difficulty in obtaining particulars of Specialised Sections (notably the Motor Sections), recruiting officers being invariably occupied by the demands of the line regiments. The Editor is Inspecting Officer for the MMGS, Heavy Section, Machine Gun Corps, and RE Despatch Riders. Throughout, the work has been purely honorary, and Recruiting Commissions have not been accepted. To date 9,868 readers have taken advantage of our proffered assistance."

"GLANCING THROUGH LATEST copies of our American contemporaries makes one long for the end of the war and the return of competitions. At present on the other side of the Atlantic hill-climbs and club runs are in full swing, and a great part of the papers is devoted to descriptions' of the events."

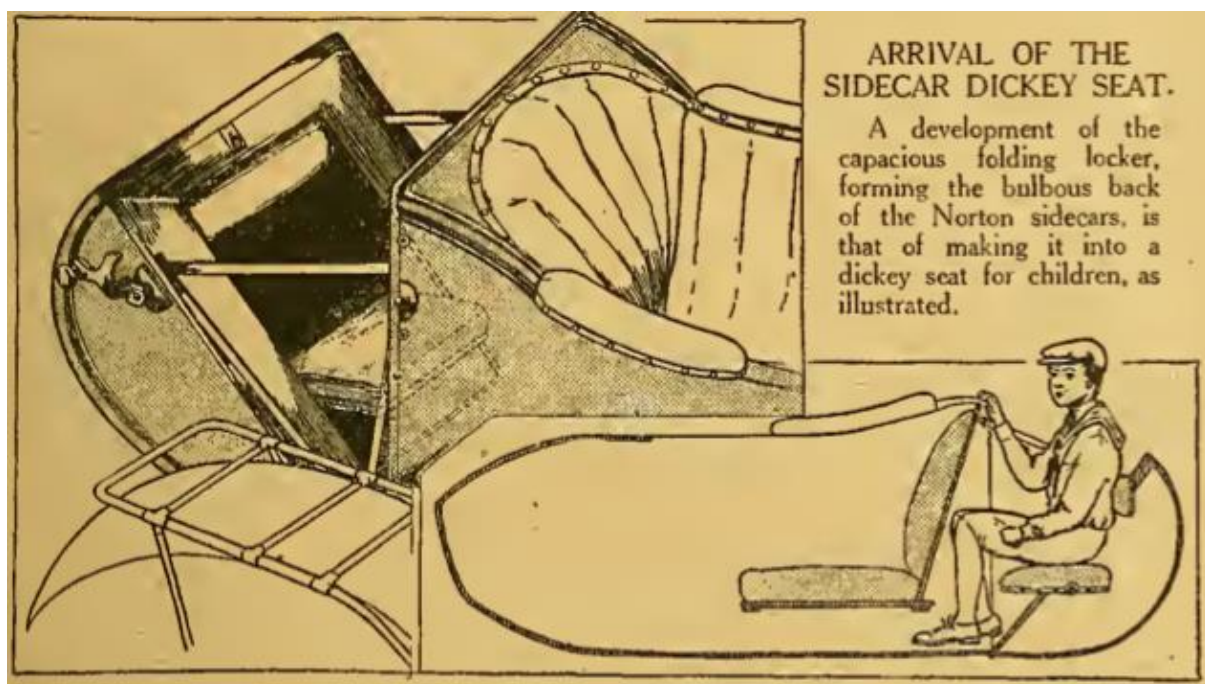


"Yet another use for the motor cycle: The Detroit, USA, police motor squad and their Harley-Davidsons. Nearly all the big cities of the United States have a section of motor cycling police,

one of their duties being to prevent scorching in the towns and suburbs. As a result of this they are commonly referred to as 'speed cops'."

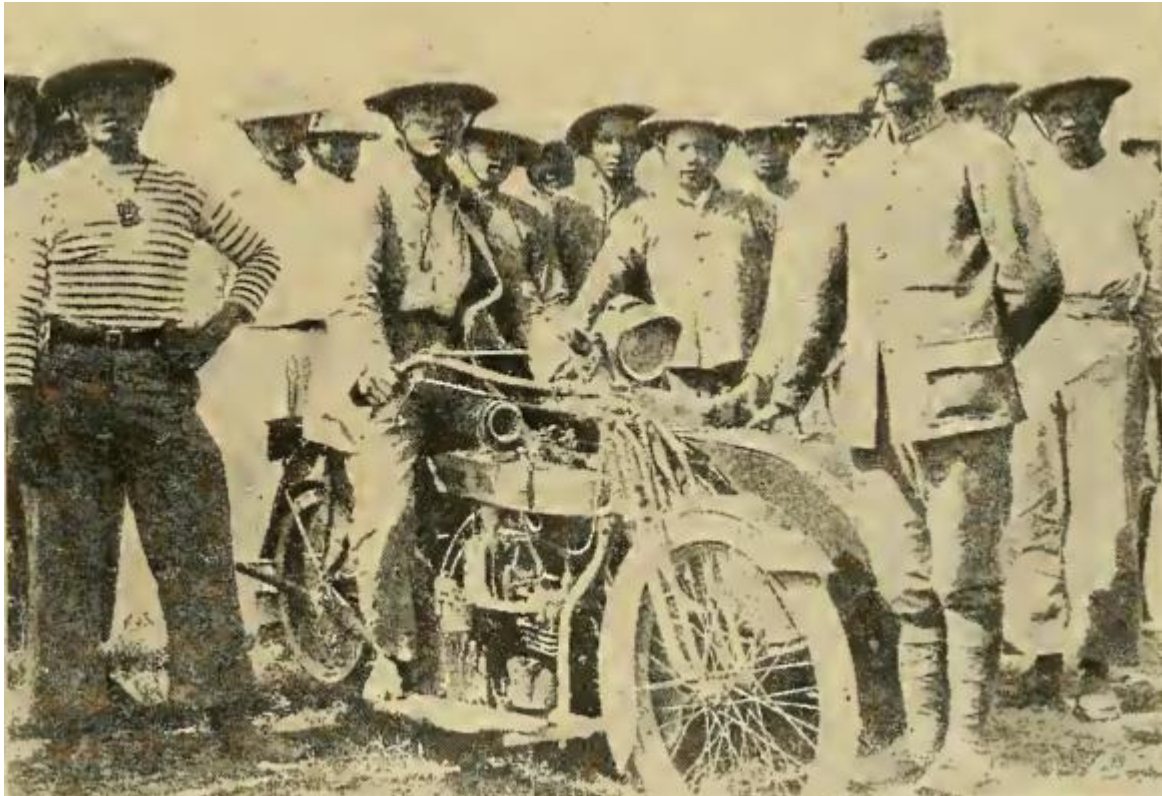
"A 220 MILES ROAD RACE WAS HELD recently by the National Motor Cycle Club of Buenos Ayres. Results were as follow: A Bernasconi (Harley-Davidson); C Santiago (Indian); J Hourdebaight (Indian). Winner's time, 5hr 33min 30sec. This is the second year in succession Bernasconi has won the event."

"LEGLESS AND ONLY ONE ARM but still a keen rider: A Los Angeles cripple, A Leroy, is touring the American Continent on a Harley-Davidson sidecar. Leroy has both his legs off at the hips and his left arm at the elbow, but he is able to sit in the sidecar and operate the specially adapted controls. There is no saddle on the machine at all, which is started by a hand lever at the side. The handle-bars are displaced by a rod fastened to the head of the steering column and at its other end to the stump of Leroy's arm, with which he steers."



"THE ITALIAN GOVERNMENT HAS NOW decided to try the Douglas motor cycle, and has ordered a hundred machines of the three-speed clutch type. Hitherto the Italian Government has not looked favourably upon the lighter types of motor cycles, so the decision is of more than ordinary interest. The Prince of Udine of the Italian Royal Family has also ordered a 4hp Douglas."

"J COOPER, OF GOSPORT, WRITING concerning his Harley-Davidson machine, claims to have attained the speed of 74mph *with another man on the carrier*. He states that he is perfectly willing to take anyone who cares on the pillion seat, so that he may prove the truth of his remarks by his Cowey speedometer. No doubt hundreds of readers will jump at the opportunity!"



French colonial troops from Cochin China—and the inevitable Douglas: The Annamites from Cochin China have arrived at Salonika. Their head dress, which might almost be mistaken for a steel helmet, is worthy of note.

“WE OBSERVE THAT MANY MOTOR cyclists are making a practice of carrying a spare tin of petrol on their machines, as we have advised. This seems to be the surest method of getting home when visiting doubtful districts, and one may travel free from worry as to a possible shortage of fuel.”

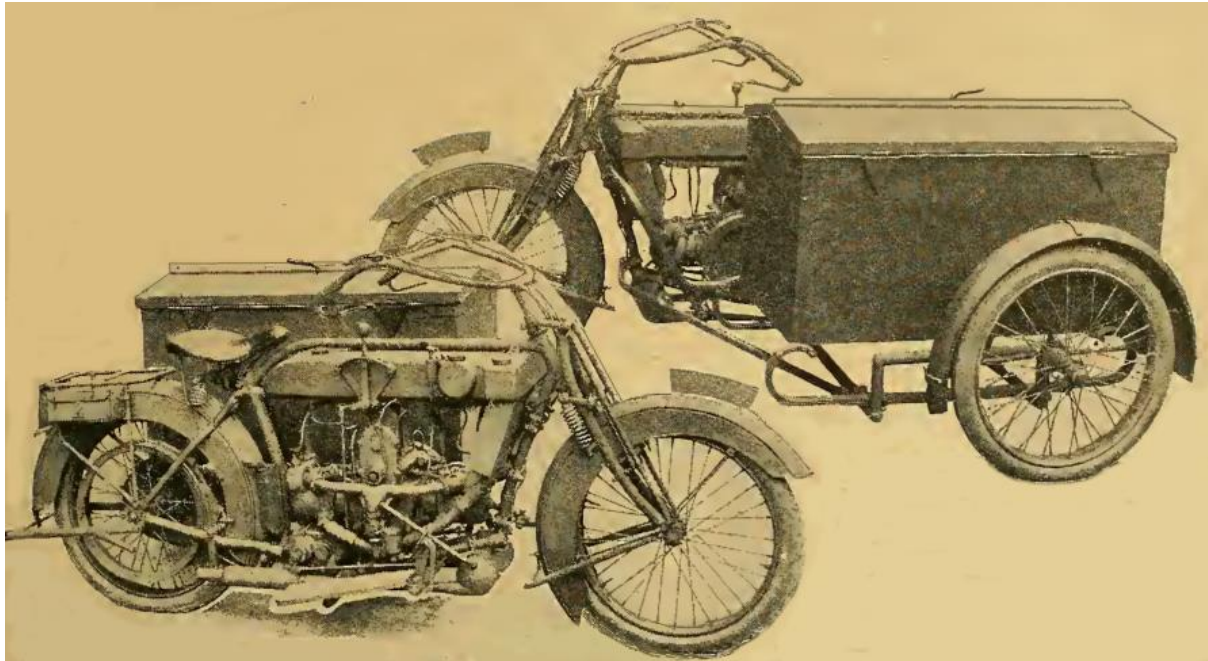
“IT IS GRATIFYING TO NOTICE the increasing number of girls and women riding motor cycles. Sidecar outfits in particular appear to be very popular with the feminine sex, and it is quite common to see a lady taking a friend for a run. When the seasoned riders of the pre-war days come home after the war one of the surprises they will experience will be in the number of lady motor cyclists on the road.”

“AMERICANS ARE NOTHING IF NOT enterprising, and no doubt a desire to strike something original in the magneto line has led to the latest feature of the Schickel lightweight two-stroke, which has a considerable sale in the States. Following on the lines of the Ford flywheel ignition device, the Schickel Motor Co has produced a magneto which is enclosed, in, and forms part of, the outside flywheel. A small inspection hole in the wheel, with a movable cover, is intended to allow examination of the contact points. It is certainly a novel idea, but whether it is a step in the direction of the perfect magneto remains to be proved.”



“Sidecars for the Italian army: A large number of single-cylinder Stucchi machines are being used by the Italian War Office, and now the 5-9hp twin-cylinder model is being delivered. The illustration shows the two 6-8hp outfits that underwent a 500 miles test in the war zone before being finally adopted by the War Office of our Ally.”

“SIXPENCE PER GALLON ON PETROL must be regarded as a success from a motor cyclist’s point of view. The stir created when the new rates of taxes on motor cycles, varying from £2 2s to £4 14s 6d, were promulgated has no doubt had good effect, for not a week has passed but this journal has been able to provide evidence of the unfairness of the proposals...Stress was laid upon the fact that motor cyclists would be called upon to pay £4 14s 6d for their machines, whereas several makes of small light cars weighing four or five times the amount of a motor bicycle would get off for £4 4s...Mature consideration has brought about the adoption of a petrol tax which, we think, will meet with general satisfaction. Motor cyclists can congratulate themselves that, in addition to owning the cheapest motor vehicle ever devised, they likewise possess the most economical mount, so far as petrol consumption is concerned.” Every owner of a motor cycle or car was required to fill in a census form, Petrol Form 1, listing each vehicle’s registration number, the owner’s “profession or occupation”, average fuel consumption, “present stock of motor spirit”, estimated monthly fuel usage and “purpose for which each vehicle is used”. The form warned: “Any person knowingly making a false entry in this return will be guilty of an offence involving liability to heavy penalties under the Defence of the Realm Act.” And the Blue ‘Un concluded: “The new tax may fall heavily on some, but it is at any rate a fair tax, for it will fall most heavily on those who make most use of their machines, and do most damage to the loads. Another point is that those who could not afford to pay a very largely increased tax, and would consequently have had to give up their machines altogether, will now only have to reduce their distances. This cannot be considered a great hardship...Every motor cyclist who has duly filled up. his petrol census form will be entitled to purchase a certain amount of petrol during a certain time, and upon payment of the extra duty of 6d. a gallon will receive a permit for the amount in question.” The Chancellor of the Exchequer was asked what would happen to a motorist “stranded far from home with an empty tank and his petrol licence showing that he had purchased all the petrol to which he was entitled. Mr McKeima stated that the unfortunate motorist would not be able to buy any more and would have to trust to a friend coming along who would offer a helping turn.”

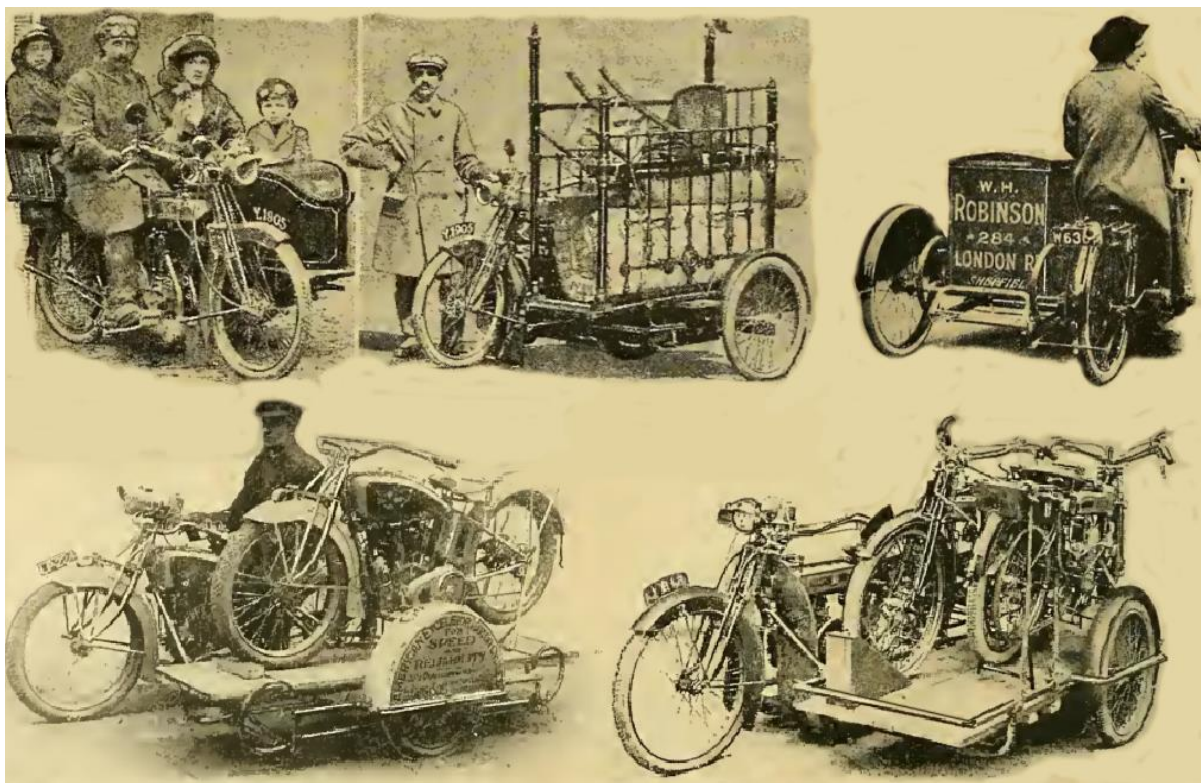


Humber received a large order from the Russian army for 6hp water-cooled flat twin combos for use as cargo carriers.

THE MILITARY WERE KEEN to put 'side carriers' to work carrying everything from post to ammunition. The Army had also requisitioned huge numbers of the horses that had hauled tradesmen's carts, not to mention the men who drove them. *The Motor Cycle* pointed out that a sidecar outfit was the answer to both problems. Each combo could replace at least two horses in terms of the goods it could deliver; young women and boys could be trained to drive these outfits. Sidecar manufacturers lost no time in producing specialised sidecarriers to carry everything from laundry to wet fish. And sidecarriers could easily be replaced with conventional sidecars to serve as family transport. Detailed cost analysis indicated that an outfit's running costs were much lower than a horse and cart's.



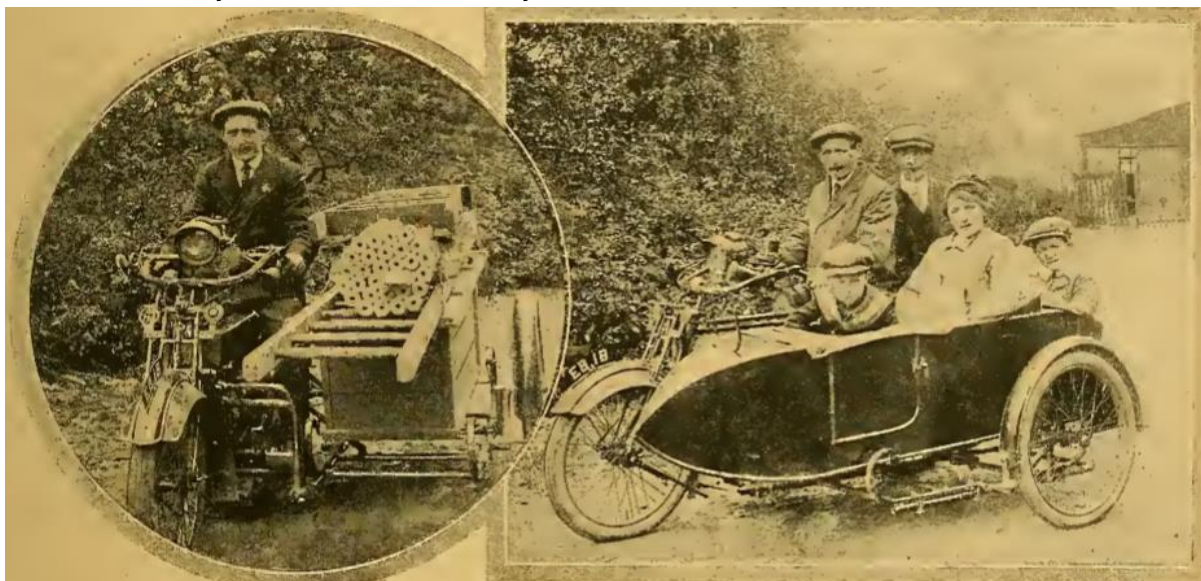
"A contrast: A young woman can soon learn to drive a sidecarrier." Right: "Old style, 8am and only half way round. New style: Finished one round and returning for more!"



From left (top): "A Premier for touring and business. A girl enjoys sidecarring." From left (bottom): "American Excelsior used by the London agents, Harris and Sons...Douglas used by that firm's London house."



From left: "A dairyman's Chater-Lea. A boy can drive a sidecarrier. Enfield in bazaar work."



“An 8hp Coventry Excelsior owned by Edwin Bricknell, of Coventry. Mr Bricknell uses it in his business of painter and decorator, and also for touring. It has proved an unqualified success, and since last August, when it was delivered, it has covered 4,000 miles. On the business box body 3cwt can be carried easily, and this load did not prevent the owner using his machine in the heavy snow of the early part of this year.”

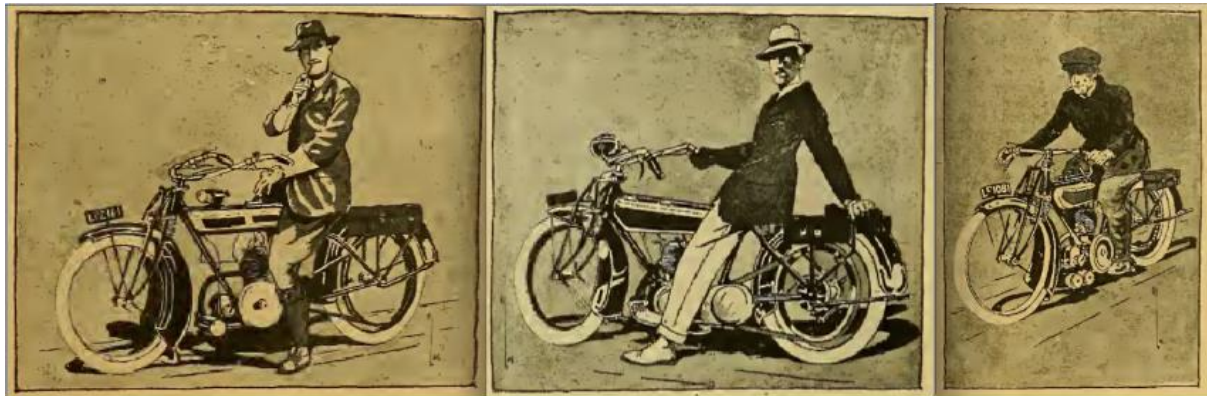
“I AM ONE OF THE LUCKY FEW (outside Service men, *bien entendu*) who are running the latest 2¾hp Douglas,” Ixion wrote, “and it is extraordinary how each successive year brings an increase of power to this little engine. When I sampled its earliest model, I was frankly amazed at the plucky way in which it romped up long hills, and yet every spring since has added a new kick to it. The latest example is simply bursting with willingness, and rips away on top gear in astounding fashion; on a recent trip West, which included some fearful hills, I never found it necessary to drop below second gear. Moreover, the extra power is not attained by any sacrifice of flexibility, as sometimes happens. We all know what it is to rejoice on discovering that the 1916 edition of our pet 3½hp can do 5mph more than the 1915 edition; and presently to discover with a sigh that the slow running has been spoilt, or that the petrol consumption has gone up rather appreciably. But the new Douglas, possibly owing to carburetter improvements, is better at both ends of the scale; it can storm along in more masterful fashion than one expected; and eke it can tick like a sucking dove.”



M Bannounah sends us this photograph, taken in Cairo, of himself and his two nieces and nephews. The little girl on the left has since learnt to drive the Motosacoche, though she has some difficulty in reaching the controls.

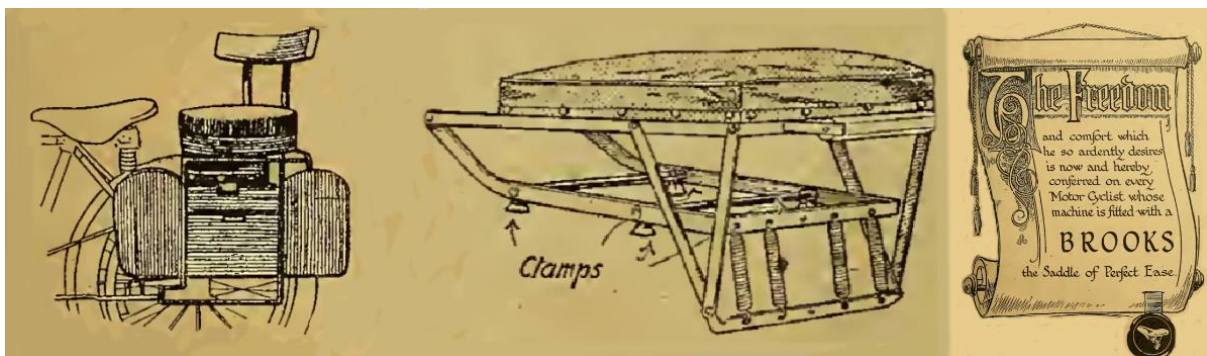
“HOW THE USE OF A MOTOR CYCLE can be extended: So far development has resulted in perfect reliability; in the future, therefore, attention has to be given to refinements. First must come cleanliness, and then comfort; better still, both should be evolved together...Up to the present cleanliness has been studied only from the point of view of keeping the rider’s garments

free from mud, and the Great War, which is turning out to be the greatest reliability trial ever held, will render the post-war models of the WD pattern better than ever in this respect. Mud that clogs bearings and working parts must be excluded, so the result is that not only the machines but the rider as well are protected...Now it should be perfectly possible for a man to ride a motor bicycle in the height of summer for a considerable distance without overalls, and it should also be possible to ride in flannels to the river, the tennis court, or the cricket ground, but few machines even of 1916 pattern will allow this to be done. The rendering of an engine practically oiltight can be accomplished, but all that can be done at the present time is to keep the speed down and use as little oil as possible if one desires to keep particularly clean on a short run. When times are again normal and trials are held once more the Auto Cycle Union, at the end of the next six days trial, should arrange for the machines to finish up at Brooklands, undergo a short speed test, then see that the riders are garbed in clean holland overalls, set a minimum speed of thirty miles an hour, send them round the track for, say, ten laps, and give a prize to the cleanest man and machine at the end of the test.” *[This article might be the seed that grew into The Motor Cycle’s campaign for the clean, simple ‘Everyman’ motor cycle.]*



(From left) “Thus attired one should be able to ride a motor cycle in summer weather. A machine should be so guarded that tennis or cricket players can ride to the grounds if they are five or twenty miles away from home. With present-day mud-guarding, motor cyclists are obliged to present the appearance depicted above, even in fine weather.”

“‘CLEVELAND TRIUMPHS AGAIN’: The above is a heading to an advertisement in an American contemporary of the Cleveland lightweight, that has been illustrated in these pages. The heading is rather amusing, in view of the undoubted external likeness of the Cleveland to the Baby Triumph.” The US Excelsior company began to build Triumph L18 Juniors under licence. These American Triumphs, uprated to 269cc, stayed in production for four years.



From left: Gamages offered a rather luxurious sidesaddle pillion, “upholstered dark green, can be used on most carriers without removing tool bag. “Whatever may be said against the practice of pillion riding, it will always be indulged in by many persons. No doubt some accidents occur

through the passenger being jolted from the rough and ready seat usually mounted on an unsprung carrier. This danger is entirely obviated by a new form of pillion seat known as the Tan-Sad...four coil springs...effectively absorb road shocks.” And Brooks came up with a stylish ad for its popular sprung seats.

SIR—I AM AT PRESENT ENGAGED in designing a steam motor cycle, and, having a large workshop in which I can work, would be glad to hear of anyone interested and willing to experiment with me.

F BARTHROP

SIR —ON THE CHESTER ROAD NEAR STONEBRIDGE I was resting by the roadside when three testers came along on two-stroke machines. The leader looked curious in the distance, and seemed as if his hat were over his face. To my surprise, he was riding backwards, his handlebars behind him. He nodded to me as he passed at 20mph, and that threw him out and upset his balance. His bicycle ran up the bank, down again, and wobbled across the road, and the rider, evidently forgetting his position, tried, to steer his back wheel, and ran up the opposite bank. No damage was done, although he narrowly escaped being run over by his two companions. He then rode to the top of the hill, turned his machine, got on again backwards, and came blinding along at, I should think, 25mph.

O5036

[We publish the above letter, not because we share our correspondent's admiration for the rider referred to, but because we hope it may be a warning to others to avoid such pernicious practices. The rider endangered not only his own neck, which may be of small consequence, but also the life and limbs of anyone who might have been using the road in a proper manner. We trust that the 'police will rigorously put down dangerous driving of this kind.—Ed.]



The Netherlands was neutral so motorcycle competitions continued, despite the war just over its border. The Dutch MCC's championship was contested by eight teams comprising two solos and a combo. Left: The victorious South Holland team came through without losing a mark. Right: “On the road. Note the special bicycle path on the right.”

“I NEVER THOUGHT I SHOULD write a word against the belt-rim brake, and I may yet have to withdraw the hint I now offer,” Ixion revealed. “The belt-rim brake has always appealed to me as the simplest, most foolproof, most reliable, and easiest adjusted brake it was possible to apply to a motor cycle. But after years of aversion of the band brake, and even greater aversion of the concealed internal expander, I have been driving an external band of modern design, and it has proved a revelation. When I first needed it, I needed it very badly. I had foolishly counted on finding a lonely hill deserted, and was sliding down much too fast when I met a herd of bullocks, jammed between hedges on a very bad corner. I crushed on the band, expecting to feel the

usual stagger of the hind part of the machine, and to experience something of a dry skid, possibly mild, possibly demanding much resistance on my part. Not a bit of it. The machine slowed down perfectly smoothly without a wobble or a protest. I held my pen in leash for a thousand miles, expecting chatter, glazing, or adjustment difficulties to crop up in due course; but so far they have not appeared, and as I ride other machines with belt-rim brakes 'in between whiles', as the cumbrous colloquialism goes, I have every chance to muse on the merits of the other type. I look like revising one of my sturdiest allegiances."

"DESPATCH RIDERS IN THE IRISH Rebellion. The official despatch of General Sir JG Maxwell dealing with the Irish rebellion contains a tribute to the work of motor cyclists. The following quotation shows that the despatch riders undertook dangerous work: "I wish to acknowledge the great assistance I received from...the Civilian and Officers' Training Corps motor cyclists, who fearlessly carried despatches through streets invested with snipers."

"SIR, YOUR ARTICLE IN last week's issue on the sidecar de luxe has made me wonder why, in these days of petrol economy, motor bicycles and sidecars are not being used occasionally in place of taxis.

WG ROBERTS."

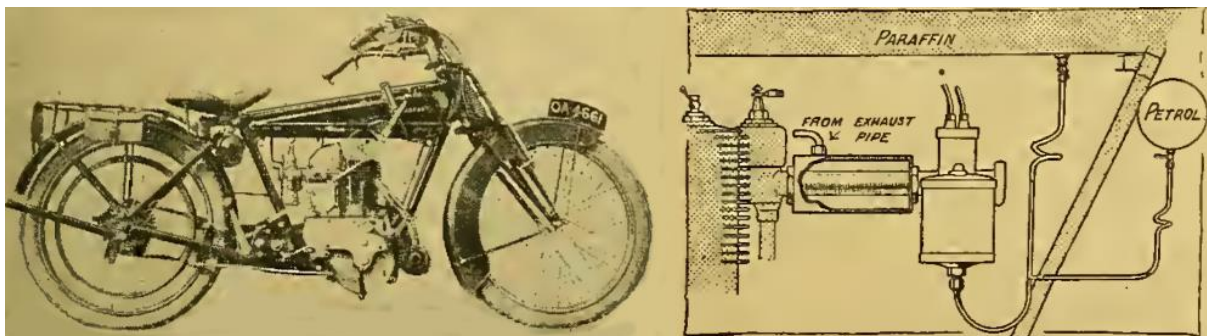
"SIR, I AM A TOMMY FROM the Dardanelles, just resting at a convalescent camp near Manchester through trying to stop a shell out there. I would like to get into communication with a patron of your well-known paper, *The Motor Cycle*, residing in the Manchester district, who would care to teach me to manage a motor cycle. The reason I ask this favour is because I want to transfer into the Signal Service for further service in France.

T BARDLEY."

"I ALWAYS BELIEVE IN KEEPING on good terms with the police," Ixion remarked, "and when one of the local constables accosted me the other day as I was referring to a map, I demonstrated the many novelties on my ABC to him, as he evidently had a smattering of mechanical knowledge. Suddenly his eye spotted my Watford speedometer, which on all ABC machines is calibrated to 80mph for reasons which need not be laboured here. He looked at me very meaningfully, and said, 'I see I must keep a special eye on you!' I have not owned a Bonniksen speedometer yet, but unless memory betrays me, their needles go round and round the dial ad lib instead of registering such accusing digits as '80'. Anyhow, I ask Mr Bradshaw if he considers it wise or kind to give his customers away to the police so completely. I feel quite nervous now whenever I go put."

"THE QUADRANT 'AFTER THE WAR' MODEL: Our readers will join with us in the fervent hope that it may prove to be a 1917 model...We have been able to inspect an entirely new model...The frame has been redesigned, with a top tube sloping direct from the head. This necessitates a broad tapering tank, which held one and a half gallons of not petrol, but pure paraffin...The power unit is of the usual sturdy type associated with this firm, but of smaller capacity than formerly, 85×88 mm (499cc) nominally 3½hp. The valves follow the usual Quadrant practice, the inlet being situated behind the cylinder, and the exhaust on the right-hand side. The transmission is all-chain through a BSA three-speed countershaft gear, with foot-operated clutch and kick starter. Mr Tom Silver, who is responsible for this machine, had experiences in the use of heavy fuels in the early days of the motor industry. Now the increasing difficulty in obtaining petrol has led him again to experiment with paraffin as the 'moving spirit'. He has perfected a small addition to the ordinary carburetter by which it is possible to run any machine on paraffin only. It consists of a cylinder about four inches long by two inches diameter placed

round the inlet pipe with a connection to the exhaust port, so that some of the hot gas passes around the induction pipe and heats the sprayed paraffin sufficiently to cause it to vaporise thoroughly before reaching the cylinder...For starting purposes a small tank of petrol is carried...A few minutes' running on petrol and the induction pipe is sufficiently warm for the change to be made by turning off the petrol and turning on the paraffin...When the engine had warmed up to the normal we were able to stop and restart by paddling off, not once or twice by luck, but many times, without the slightest difficulty, the engine firing within a couple of yards of the start every time. No appreciable difference in power was noticed, but we had not the opportunity of testing it on a good hill. Knocking seemed absent, although we deliberately attempted to make it knock...Mr Tom Silver accordingly placed a Quadrant and sidecar at our disposal, with the auxiliary tank filled with petrol. The main tank was empty—in fact, bone dry—and, driving on the lighter fuel, we repaired to an oil shop to fill up with paraffin. The engine started at the first kick down of the starter pedal, and we moved off, with Mr Silver driving, so smoothly and quietly that our first impression of the 3½hp Quadrant was its silent running. After a few minutes' running we turned off the petrol and opened the paraffin tap. The air lever had been fully open, and, without changing the positions of either the air or the throttle, we continued our way without noticing any difference in the running. The vaporiser was now warm, but it was still possible to bear the hand upon it...A drove of cattle emerging from a side road necessitated a quick pull up. However, we were able to pick up speed again without resorting to a lower gear, but for the first time we noticed a difference with paraffin, as it was not possible to accelerate so quickly...there does not appear to be any of the usual disadvantages connected with the use of paraffin. There is no black smoke from the exhaust, nor acrid fumes. Overheating does not take place, neither does the plug soot up, as is sometimes the case when heavy fuels are used. Maximum speeds are not so good as with petrol, probably due to the fact that it is impossible to open the throttle fully for want of more air than the petrol carburettor will give, therefore it would appear that an extra air inlet in the induction pipe, such as is used on cars, might increase the range of throttle supply."



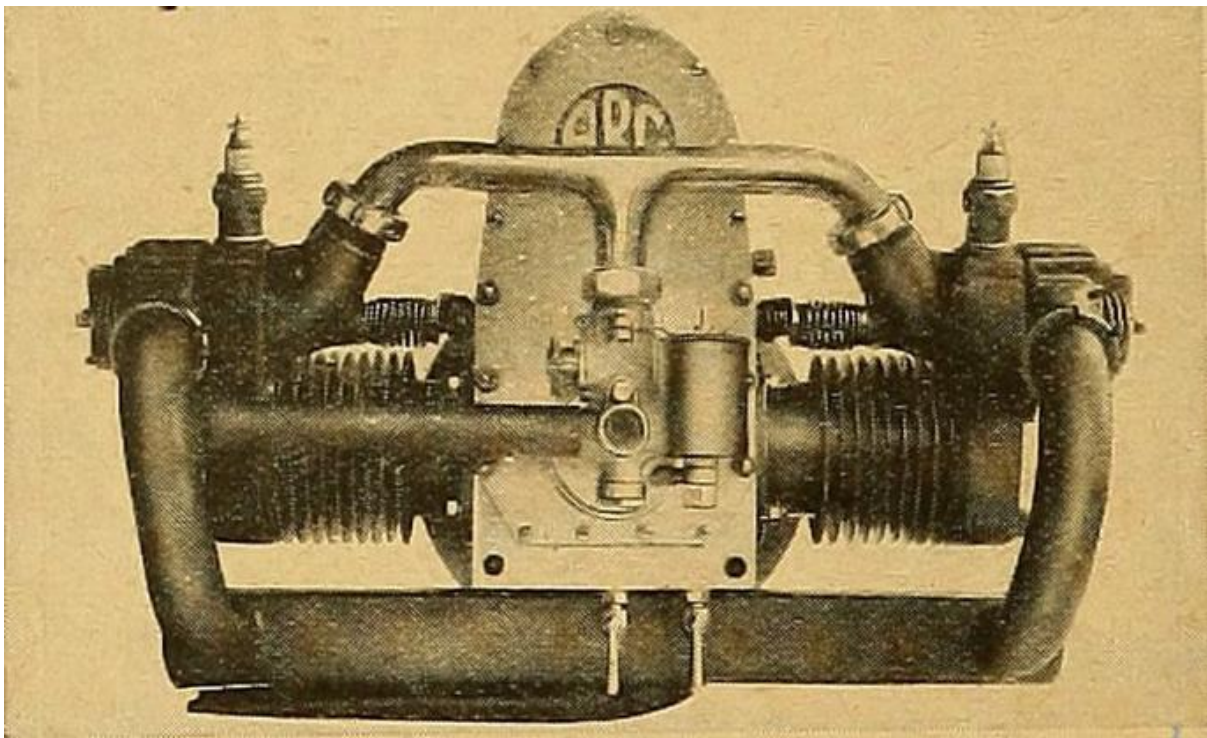
Left: In the face of petrol rationing the 499cc Quadrant was designed to run on paraffin. The vapouriser was available to convert any bike to paraffin.

"DURING THE LAST FEW DAYS the exhaust of most motor vehicles is reminiscent of the pungent odours associated with engines of the early days. This is undoubtedly due to the fairly general use of petrol substitutes or petrol mixtures in carburettors either incorrectly adjusted or unsuited to their use."

"MOTOR CYCLE TRADERS IN DODGE CITY, Kansas, USA, have received a shock in the form of an order from the municipal authorities ordering them to move their garages and repair shops from the main business district within ten days. Such high-handed action is difficult to

understand. Legal authorities of the motor cycling associations are coming to the assistance of the agents concerned.”

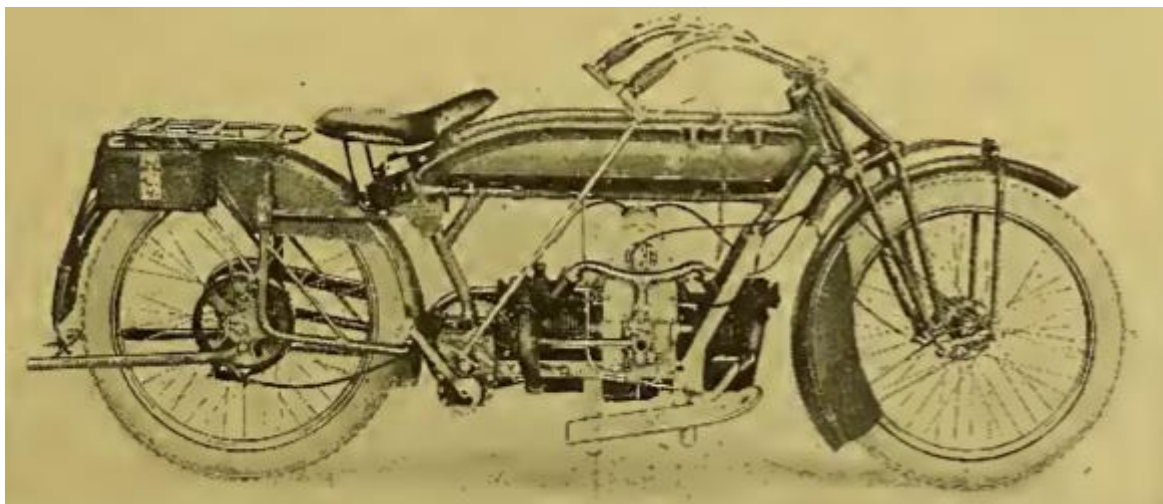
“IXION WAS NOT GIVEN TO HYPERBOLE, which makes this panegyric to the ABC all the more remarkable: “Genuine originality is very refreshing to a jaded journalist in days when most machines follow broadly accepted lines; the thrill of such novelties as the Scott and Douglas debuts is not a common experience. The ABC machines occupy a unique position in that everybody is talking about them, whilst comparatively few people know them, since the factory is run on the system of a limited output of deluxe machines. As one of the few riders who have taken delivery of the latest model, I may be allowed to discourse on its merits...The engine is the heart of the machine, and the ABC engine differs from every other engine—car or cycle—which I have ever sampled in that it combines the maximum of efficiency with the maximum of refined running. It can hiss like a snake at 2mph or bellow like a bull at 65mph. The first feature is obtained by an extraordinarily excellent balance; if the engine is run throttled down with the clutch out, a hand, laid on any portion of the machine, will feel no vibration. The speed and revving capacities are probably shared by several other first-class engines, though I fancy the ABC has the legs of most; and in this connection it must be remembered that its specification includes every weighty luxury imaginable, and its total weight is probably about 300lb...The clutch...is perfectly smooth in action, and is fitted with both hand and foot control, the leverage in both cases being so good that the little finger suffices to operate either lever or pedal. Both brakes go on as silkily as a spoon enters a tin of treacle; you cannot jam them, and the maximum power of the front brake is insufficient to lock the front wheel or upset the steering. The steering angle and balance are so



“It can hiss like a snake at 2mph or bellow like a bull at 65mph.”

designed that I can ride ‘hands off’ at 45mph...Both cylinders can be detached, leaving the crank case in situ—an uncommon feature on horizontal twins...four ratios—the maximum for practical purposes with a rigid drive—are provided, and the two higher gears, which often require interchanging at high road speeds, can be changed on the valve lifter, which is simpler

than the use of the clutch. The chain drive is so adequately cushioned that it feels exactly like a belt in perfect condition; indeed, the machine can be driven with only one cylinder firing, full compression being retained in the idle cylinder without shock or jar being received via the transmission. The kick-starter is fiilly enclosed, and is dirtproof. An automatic carburetter is employed, which gives an approximately perfect mixture at all speeds, after the exhaust pipe, from which hot air is taken, is warmed up...in actual practice, the mixture appears perfect after 300 yards...The frame is sprung fore and aft, without loss of lateral rigidity, and the springs deal indifferently with either horizontal, vertical, or compound shocks yet they never bounce or clash. The lubrication is mechanical and automatic, the rider's duty being limited to opening a tap on starting out...The standard engine develops over 12bhp. In other words, the machine embodies all the theoretic ideals which motor cyclists are prone to associate with the millennium...In actual riding it is difficult to imagine that the most critical purist could find any point to criticise, except the weight; and weight is naturally inseparable from a luxurious specification combined with substantial workmanship. Does a rider desire to travel slowly? He may climb the test hill at Brooklands at less than 3mph without slipping his clutch, supposing he is an adept balancer. Does the user wish for a speed burst? He can do approximately 45mph on second gear, 60mph on third, and towards 70mph on fourth...Road vibration is as near as no matter non-existent. I made my tests over country roads, scarred all over with war potholes, and ridged by two deep ruts and a central hump. I failed to register any bumps up my backbone...on frosty mornings, despite the temporary absence of a hot air supply for the carburetter, the engine started in response to one or two thrusts of the kick-starter without any priming...In conclusion, I am well aware that the glowing claims which I now make for the ABC will be taken with a grain of salt by my readers, but I think that as the machine becomes known riders will gradually be forced to admit that a machine of quite astounding intrinsic excellence has been added to our gallery of stars." [PS Ixion later revealed "...the actual weight of the jigger was considerably overstated, partly because I came to it fresh from a baby two-stroke, partly because Mr Bradshaw's typist struck a '3' instead of a '2' in writing to me on the subject. The weight is not more than that of the ordinary vertical single-cylinder 500cc."



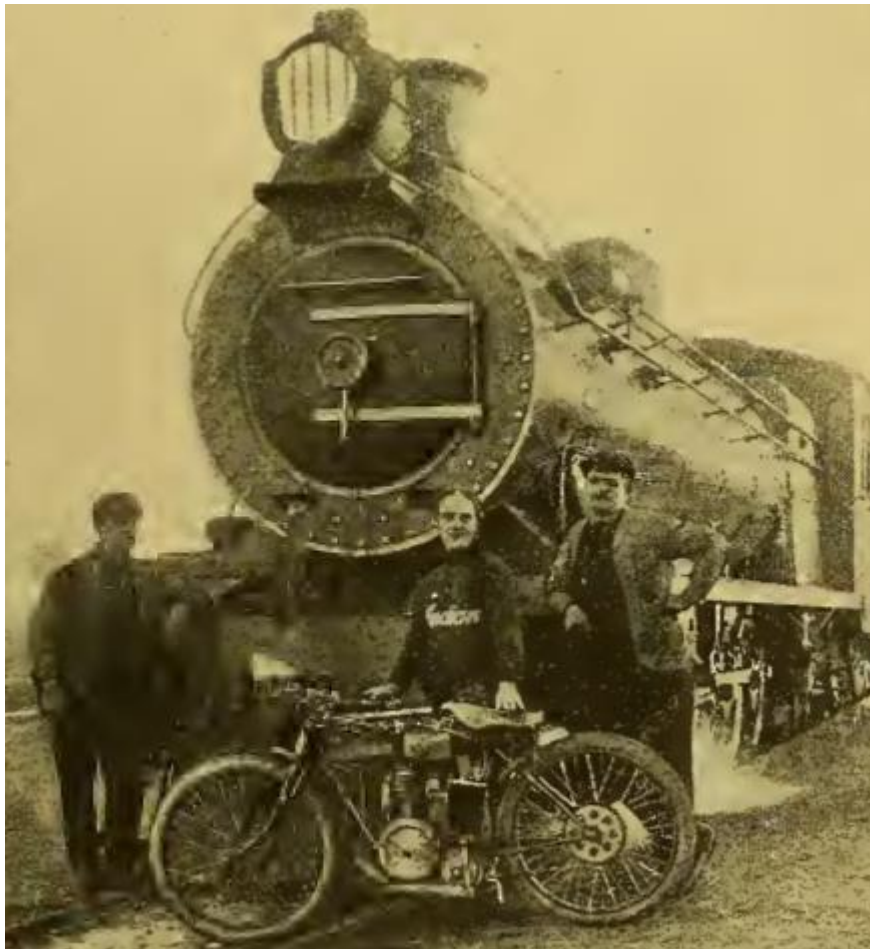
An

ABC just like Ixion's except that his had a fully enclosed kickstart.

FROM *THE TIMES*: "THE DESPATCH riders are a constant source of wonder and admiration. Their missions are often of the most perilous, and the mortality among them has been considerable. Behind the lines one sees them all day and everywhere, pounding along on their motor cycles, soaking wet and cased in mud, or, in dry weather, covered with dust and grime, so

that their features are quite indistinguishable, somehow threading their way through all the blocks and intricacies of the traffic, among horses, guns and lorries and columns of marching men. And at night, wherever one is, in the stillness or through the noise of the ghuns, somewhere on the nearest road the ceaseless urring goes on. Individually, I presume, they sleep some time. Collectively, they never stop, the constant playing of their shuttles going on day and night through all the complicated fabric of the moving armies.”

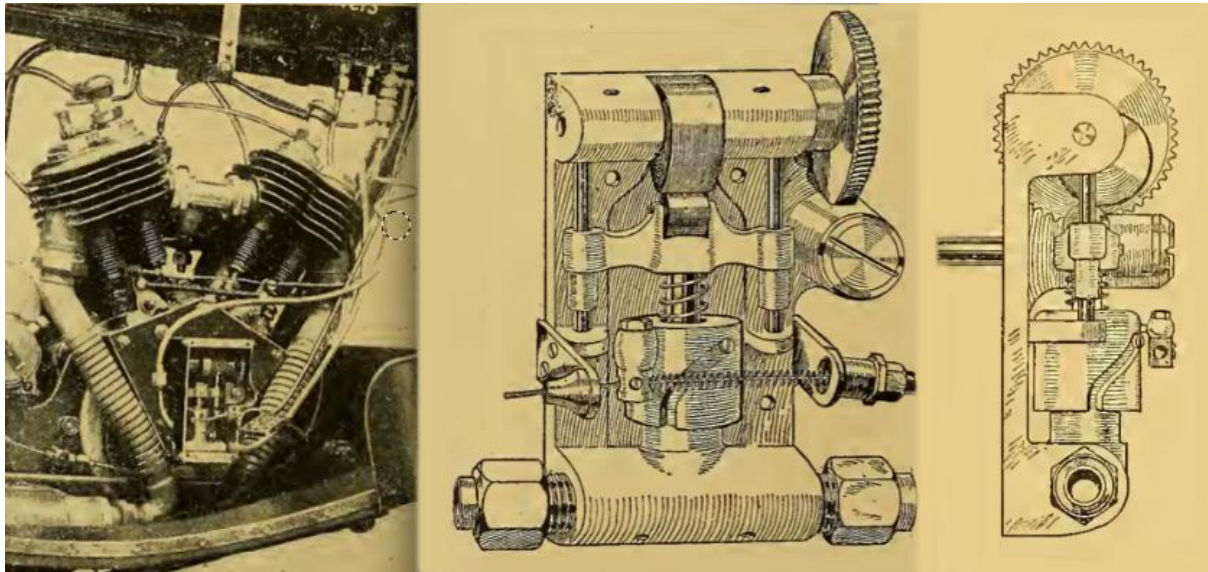
THE DUTCH VOLUNTEER MOTOR BRIGADE staged a 36-hour, 560-mile non-stop trial. “Quite a feature was the number of Douglasses, which performed remarkably well. A couple of two-stroke James also made a very good showing. Thirty-one competitors finished the total distance to time.”



“IF A SOUTH AFRICAN WERE ASKED the quickest means of travel, he would say on rails of course! But the motor cycle has proved otherwise. One of the new two-stroke Indians, ridden by Jordan, raced a train from Johannesburg to Durban and beat it by 1hr 39min. Jordan’s time for the 470 miles was 19hr 39min = $23\frac{1}{2}$ miles per hour.”

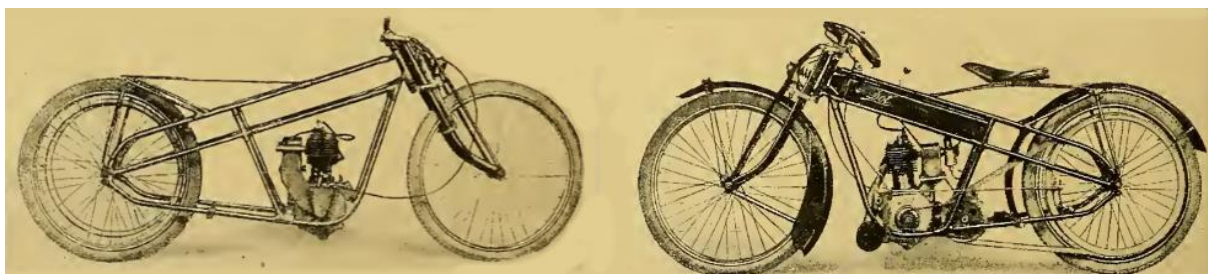
“FOR YEARS MOTOR CYCLISTS have clamoured for a more certain method of lubrication than the usual ‘hit or miss’ hand pump type or the drip feed...perfection will not be approached until the feed of oil to the engine is governed with the throttle opening, so that the engine shall supply itself with just the proper amount of oil needed according to the work it is called upon to do...We have seen in the past mechanical lubrication alone, and throttle controlled lubrication alone, but what, we believe, is the first attempt to combine the two methods is now being developed by Messrs. Best and Lloyd, of Cambridge Works, Handsworth, Birmingham. It consists of a small

pump run preferably off the timing gear by worm drive. It is intended to be fitted to the side of the crank case. An eccentric cam operating on the roller head of the pump plunger makes the necessary down- stroke, the return being given by a small spring of piano wire. Two ball valves in the lower part of the casting alternately admit and let out the oil.”



From left: “The variable stroke pump is shown fitted to a Lea-Francis twin to supply through a sight feed on the tank and thence to the engine. A cover is, of course, provided. Front view of the pump. Side view of pump showing projecting shaft driven off timing gear.”

DOT'S 2¾HP JAP-POWERED DEBUTANTE featured “a new design of lightweight frame...It consists of a double framework of small gauge tubing, while the power unit, tank, etc, are carried between the two frames. The two sections are connected together at several points by small cross members, so that they form a rigid structure, and the design is of special advantage in that the frame members do not come in the way of any portion of the internal mechanism, so that any design of twin- cylinder engine can be fitted”. It was an early example of a duplex frame. “The makers claim that this frame possesses extraordinary shock absorbing qualities, and it will be observed that the saddle is mounted on two laminated springs, which should impart a luxurious floating motion to the rider. The saddle position is extremely low. The transmission is inside the framework, and by a simple arrangement of shields attached to the frame members the whole of the mechanism can be enclosed.”



Left: “Valve side of the Dot duplex frame, showing how the engine is attached to the lower members; note alternative saddle springing. Right: The new Dot lightweight with 2¾hp JAP engine and duplex frame.”

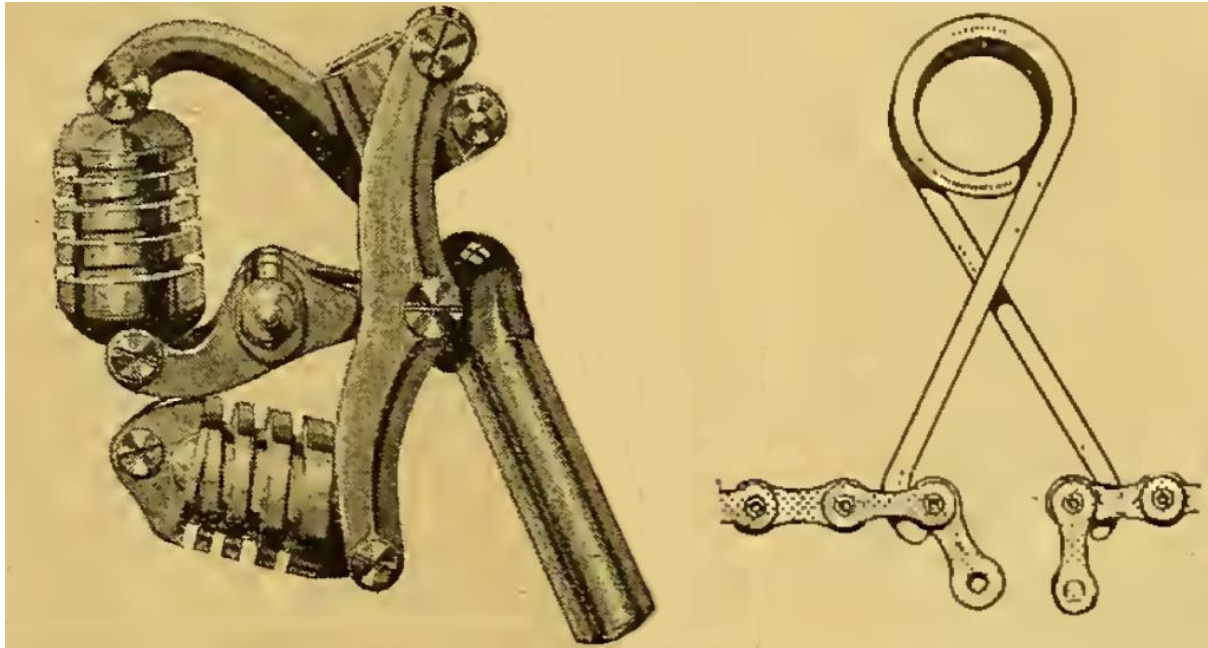
A MOTOR CYCLE DEALER IN Wellington, New Zealand, reckoned that 60% of motor cycles in the country were used for business.

“AUSTRALIAN AUTO COPS: The Sydney police force is to be augmented by a motor cycle corps for ‘scouting duty the suburbs’.”

“A NOVELTY FROM AUSTRALIA: Evidently our motor cycle cousins ‘down under’ suffer considerable discomfort on their very bad road surfaces. Our own English roads are bad enough, but they are smooth compared to the average road in Australia. With the idea of minimising, if not entirely eliminating, handle-bar shocks, Mr Percy MacLean, of Hamilton, New South Wales, has invented a curious looking device, which is to act as an insulator between the handle-bars and-the frame. From the illustration it will be seen to consist of two powerful graduated springs, a series of arms, and no fewer than seven pivots. The thinner parts of the springs take the small vibrations, the thicker parts coming into action to absorb the larger shocks. Our contemporary, *The Motor of Australia*, speaks very highly, not to say amusingly, of this invention, describing it as ‘an appliance that makes the holding of the handle-bars of a motor cycle as easy as stroking the hand of one’s best girl.’ Neither article being at hand we have no means of verifying this statement. A terrible picture is drawn of the woes of motor cyclists in the Commonwealth due to bad roads—health is sadly impaired, heart strain and digestive troubles being the direct outcome of ‘clinging for dear life to the handles to prevent them being shaken from one’s grasp’. Making due allowance for journalistic eulogies, it is certain that the invention is reasonable and effective, and should go far to eliminate discomfort.”

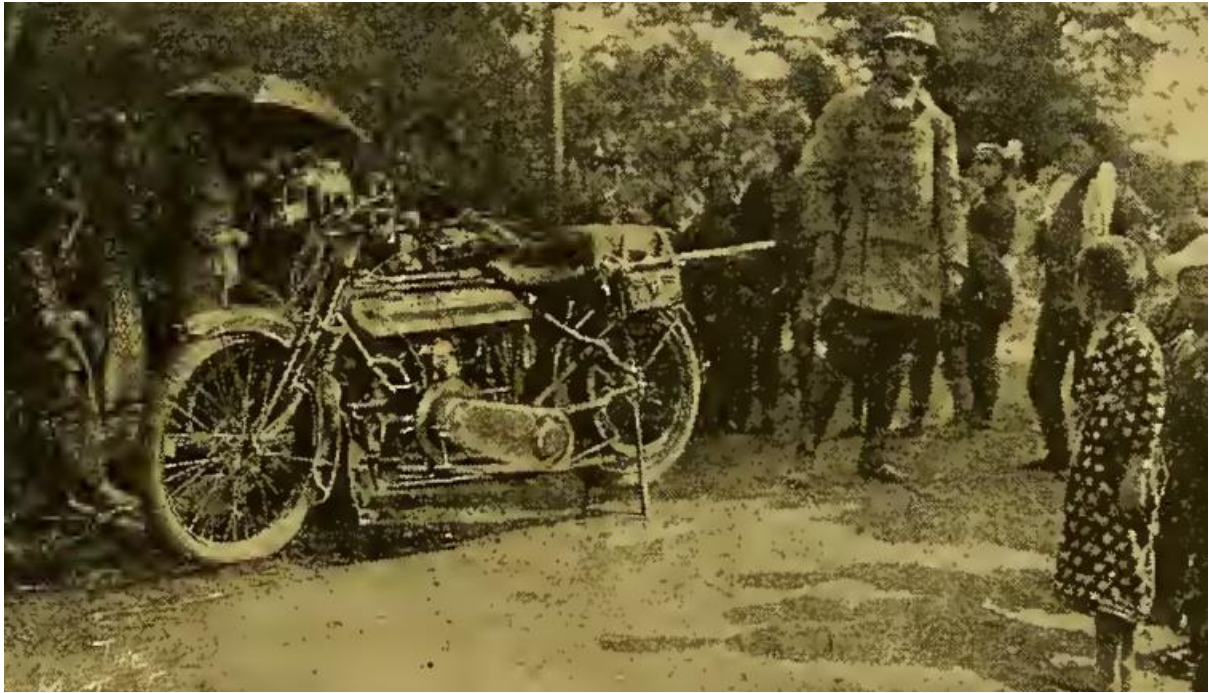
EXACTLY 158,047 MOTOR CYCLES were licensed for use on British roads (up from 142,646 in 1915), compared with 148,818 cars. There were 139,651 motor cyclists in England and Wales, 13,299 in Scotland and 5,087 in Ireland. After 1916 the totals fell due to the fuel restrictions as well as the number of enthusiasts who were on active service.

A NOVEL CHAIN GRIP: The motor cyclist making chain adjustments often wishes that he possessed a third hand; some small tool for temporarily holding the ends of the chain in position is almost a necessity. There are several devices for this purpose now on the market, and another very simple tool comes from an American source. It consists of a piece of steel wire formed with a coil in the centre, the ends being made to fit between the rollers. All that is necessary to use it is to cross the ends and insert them in the chain ends. Both hands are then free to work.”



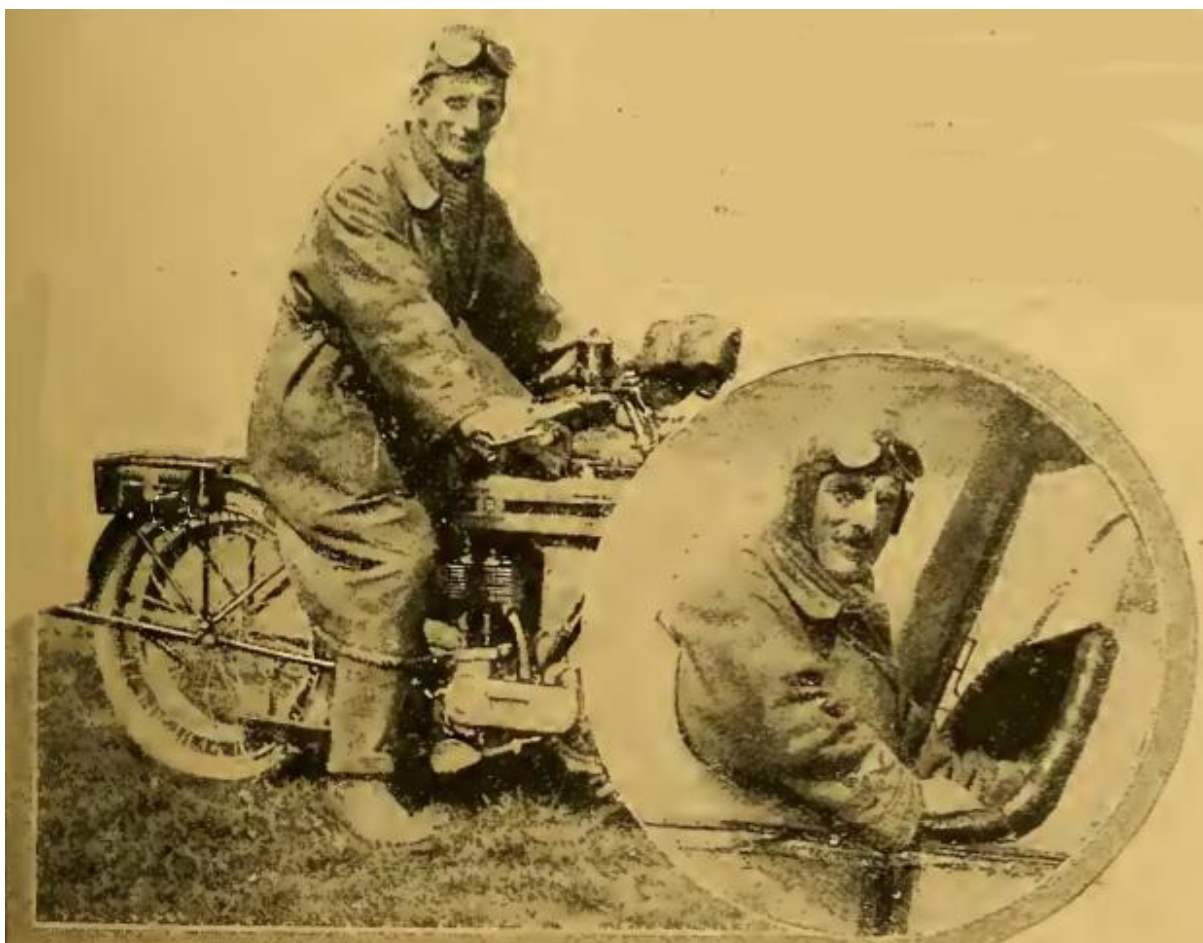
Global goodies: a weirdly complex handlebar mounting spring from Australia and a handy gizmo for drivechain tinkering from the US of A.

“MOTOR CYCLING IS BECOMING increasingly popular in Japan, not only amongst the resident foreigners, but also amongst the Japanese themselves. Prices run rather high, owing to the cost of freight and the import duty...This fact alone debars all but the relatively small, moneyed class from the pleasures of motor cycling...The agents for the various makes of machines carry practically no stocks of spares, and competent repairers are very few. The female Japanese rider has not yet appeared, and I am convinced will not appear for a few generations to come, as the woman occupies a very low position in the relations of the sexes...The few main roads are reasonably good, but are spoilt by the extensive use of loose gravel, which, thrown periodically upon the road surface, is left to the traffic to roll in...There is, it is rumoured, actually a steam roller in Tokio, but it is not used because the road bridges are unable to tarry it...Except in a few of the most important cities there are no rules of the road. In the country the people have no conception of a speed above that of a trotting rikisha man...generally, when the motor cycle is all but upon them they are seized with panic...The speed limit for cars is 12mph. Needless to say, this limit is habitually exceeded by car drivers...The people are generally very helpful and considerate to the motor cyclist in trouble or enquiring the way. A curious, jostling crowd always throngs round the halted motor cyclist. The various members explain the working of the machine to one another; burn their fingers on the engine; ask questions as to speed, etc; and unwittingly impede the rider's movements...Petrol of a kind can be obtained in nearly all the towns and larger villages. It is used by the Japs for cleaning purposes, and is sold in one pint beer bottles...Japan as a motor cycling country has its advant- ages, however. There is no speed limit for motor cycles, though 'driving to the danger' is a punishable offence.”

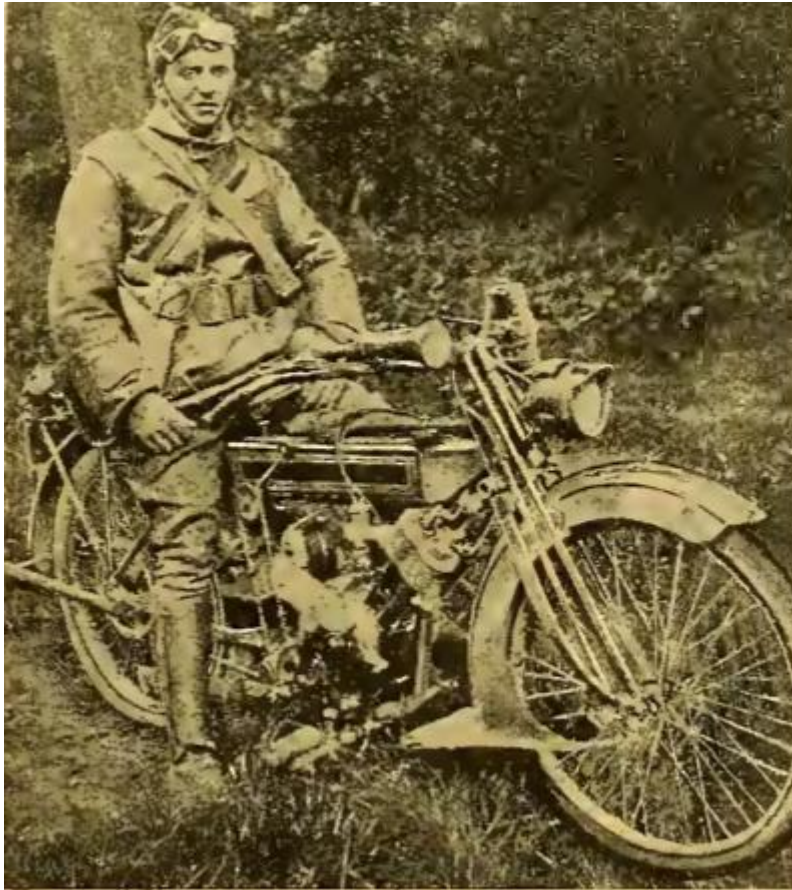


“Interested villagers at Toya, showing author’s Brough motor cycle in the foreground.”

“MOTOR RACES AND AEROPLANE DISPLAYS that were to form part of the programme of the American Liberty Day celebration at the Sheepshead Bay Speedway, near New York, on a recent Sunday, were called off at the last moment because the Sunday Observance Committee obtained an injunction. This is interesting in view of the opposition to Sunday competitions in England.”



“Lieut IB Hart-Davles, RFC, who, in spite of his age—he is 39 next birthday obtained his ‘wings’ last week. He is doubtless one of the oldest pilots to obtain their ‘wings’ during the war. Only a few readers will need reminding that Hart-Davies is an ardent motor cyclist, and holder of the End-to-end record on both motor cycle and light car. It will be noted that he is still faithful to the Triumph, on which make he made one of his End-to-end records.”



“Sidney George, a despatch rider in the RFC, mounted on a P&M. This essentially touring mount is somewhat of a contrast to the monster eight-valve Indian on which he attained the remarkable speed of 93mph at Brooklands.”

“MOTOR CYCLE VS OSTRICH: An officer with General Smuts’s force writes of his experiences from Kondoa Irangi. After describing how an apparently pro-German rhinoceros had over turned one of the armoured cars, he tells the following story of a race with an ostrich: “When riding a motor cycle one day an ostrich took it into its tiny head to keep pace with me. I opened my machine out full, but the Ostrich had no difficulty in keeping up, and if it had liked I am sure it could have beaten me hands down.”

“BRITISH MOTOR CYCLES FOR RUMANIA: A batch of over 300 Douglasses are now en route to the Rumanian Government, the makers having received permission to ship them a few days before the entrance of Rumania on the side of the Entente was announced.”

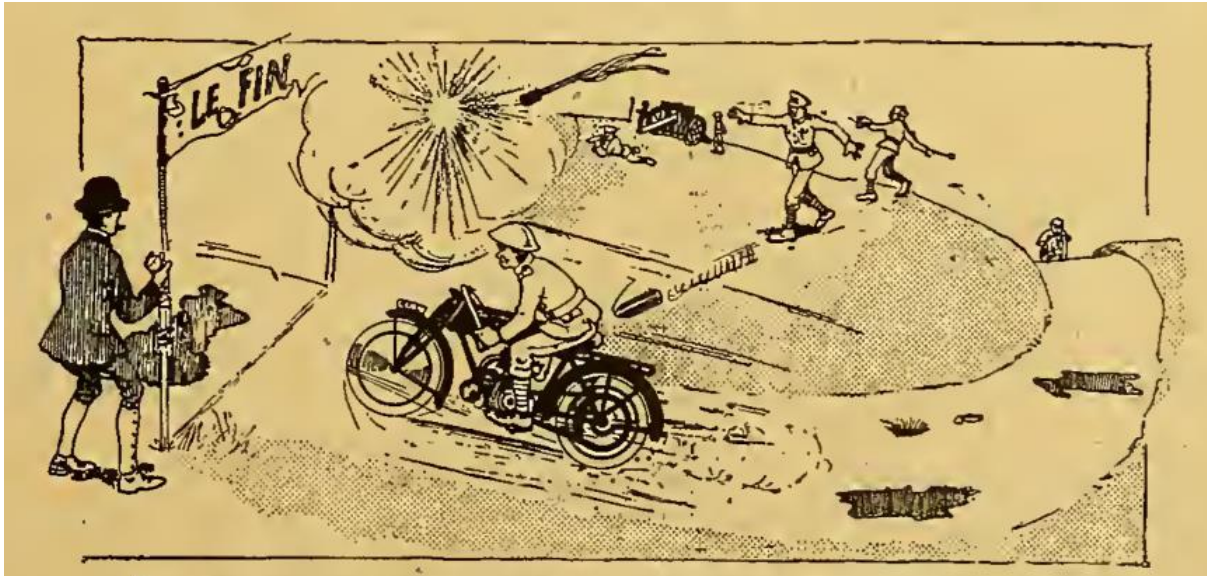


“Motor cyclists of military age! Carry your exemption cards! Birmingham military authorities, in conjunction with the police, are displaying great activity in rounding up men who should be in the army, and last Sunday many motor cyclists, among others, were stopped to show cause why they were not in khaki.”



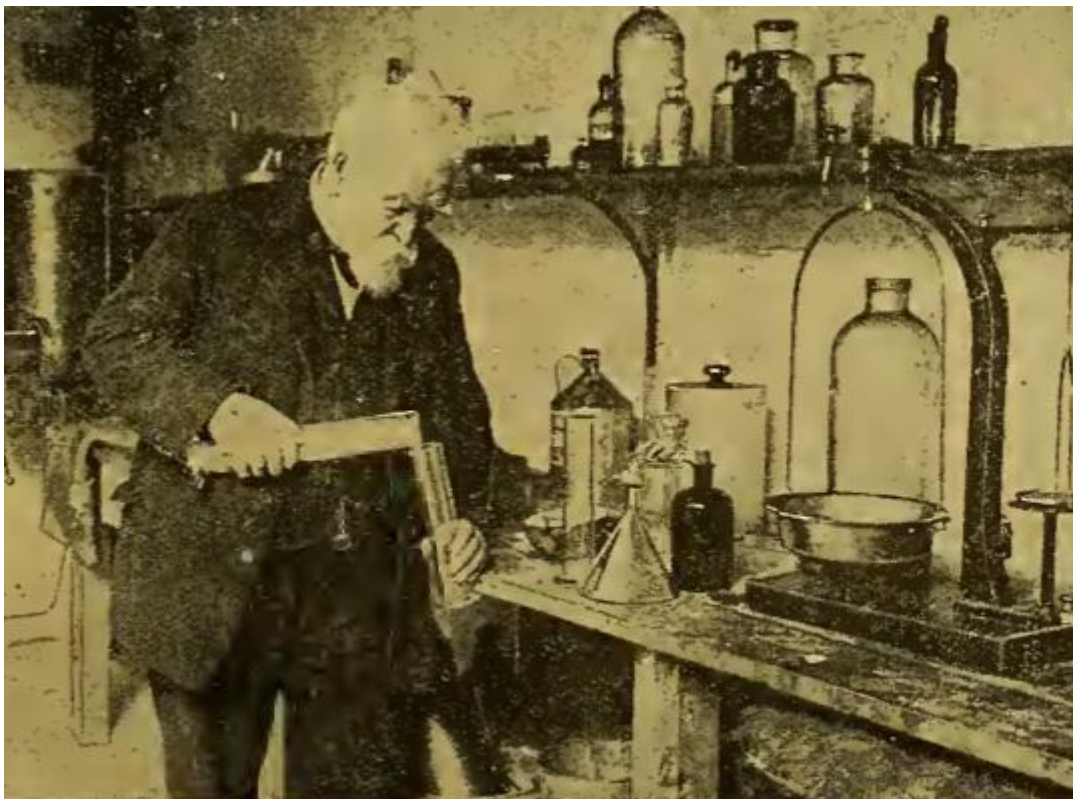
OBSCURE

FACTOIDS: PRINCE AXEL of Denmark bought a Harley-Davidson from the Danish Harley agent, Frus Hansen of Copenhagen who, at 6ft 10in, was the tallest motor cycle agent on the planet. King Alfonso of Spain, meanwhile, bought a combo for his nippers but he chose an Indian.



"From a thumbnail sketch made by Capt Huntbach. The following is his inscription: 'The hill-climb of the future handicap event—1st, 3½hp 'Splinter-proof,' Cpl Helmet-Steele (scratch), makes best time of day in spite of severe handicap of four whizz-bangs, one belt SAA, and three grenades; 2nd, 'Ixion', on his ABC."

"A SWEEP IN WESTERN AUSTRALIA: We are informed that HV Norton, a name well known in Western Australian motor cycling circles, has recently won in four consecutive events the track championship, petrol consumption trial, two days' reliability trial, and hill-climb. Norton used the same machine (BSA) for each competition."



"Sir Hiram Maxim to the rescue! The veteran inventor has turned his attention to the petrol supply problem, and is now engaged upon experiments with a view to rendering paraffin suitable for motor engines."

“THE SOUTHERN PART OF SOUTH AMERICA: Right at the bottom of South America, in the town of Punta Arenas, are a number of motor Cyclists, and we are told that British machines are preferred, solely by reason of their reliability and excellent finish. The first machine imported was an LMC in 1911; now there are about forty. The LMC is owned by a Mr DP Bradley, who is at present at home. He speaks very highly of the way in which the LMC has stood up to six years of heavy overseas usage, and it must be gratifying to the makers, who have given more attention than the majority of other British firms to the requirements of Overseas riders. In the early part of 1914 Mr Bradley, together with a friend mounted on a Douglas, made a remarkable run across the continent at the bottom of South America. The distance traversed was about 400 miles, being from Punta Arenas (Chile) to Port Gallegos (Southern Patagonia) on the Atlantic, and then across the Andes to Esperanza on the Pacific.”

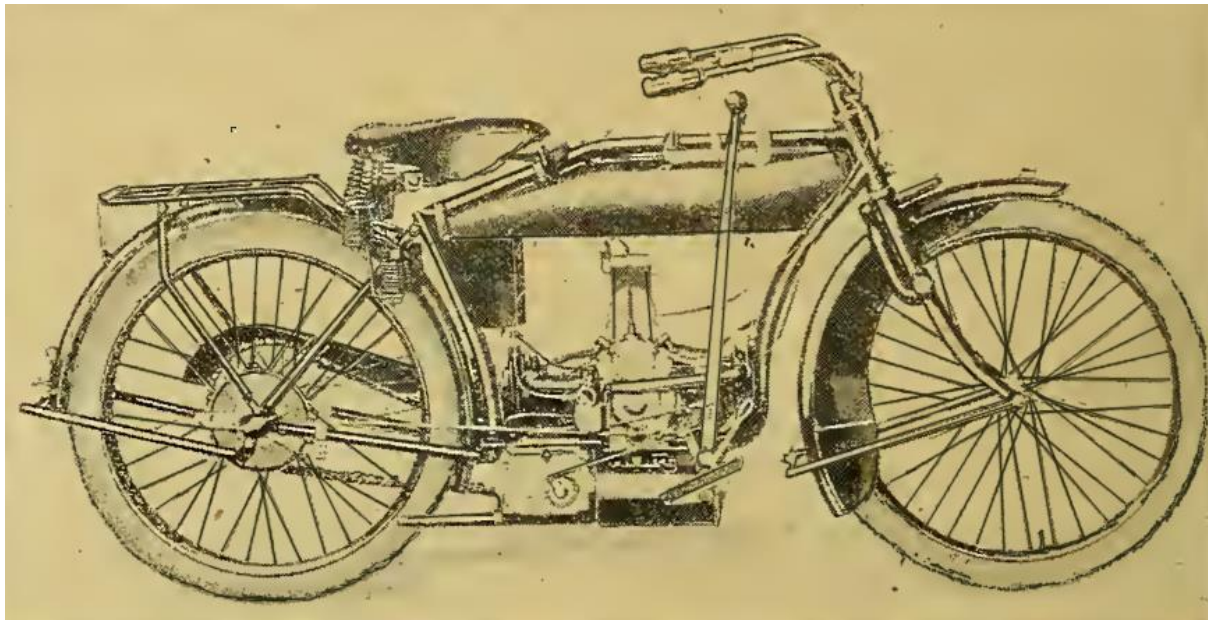
“AN INTERESTING CASE WAS tried at Barnsley last week, where a motor cyclist was charged with driving a motor cycle and sidecar to the danger of the public. The defendant stated that he controlled the machine from the seat of the sidecar, an attitude which the Chairman described as ridiculous. In spite of the defendant’s assertion that he had complete control of the motor cycle he was fined 20s.”

“IF ANY READER HAS A Grand Prix Morgan for sale, there is an offer in the advertising columns of our last issue of numerous vehicles for it in exchange. The advertiser referred to will give all the following for such a machine: ‘Well-known 1913 light car, two motor cycles, tricar, and Dennis car, and perhaps some cash.’ Some cash!”

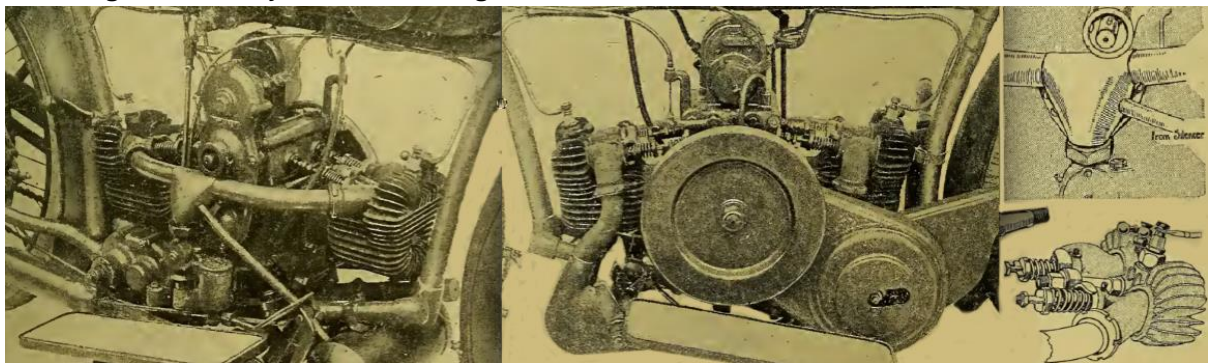
THE MAGAZINE *MOTOR CYCLING OF AUSTRALIA* WARNED: “In the interests of British motor manufacturers it is most desirable that they should fully realise the great strides American builders have made. The tendency has been to under-rate American competition, and British manufacturers have frequently ignored warnings from their own representatives. British manufacturers should not ignore opinions expressed in the Dominions, because if we do not build here we are certainly in an excellent position to test machines under conditions that do not exist in England, and of which the manufacturer is ignorant. American road conditions are mostly similar to ours in Australia, and the Colonies possess good testing grounds from which to obtain data further to improve machines, particularly as regards springing methods and frame construction.”

INDIAN MADE A SURPRISE ADDITION to its range for 1917. The well established 5hp and 7hp Powerplus V-twins were joined by the ‘Lightwin’ flat twin. *The Motor Cycle* reported: Probably the most striking feature of the latest production is the compact appearance of the power and transmission units, which are carried unusually low down in a cradle, or loop, frame. It will cause disappointment to many to learn that the capacity of the engine is but 257cc, giving a rating of 2¼hp. The bore and stroke are 50.8 and 63.5mm. The length of the stroke is noteworthy, as the flat engine has hitherto been arranged with approximately square dimensions, and it should be interesting to see how in practice the long stroke compares with the short...A small glass window is fitted in the sump, through which the height of the oil can be ascertained. The sparking plugs are arranged in the uppermost part of the cylinder head, just above the inlet valves, and should therefore keep as free as possible from oil. The magneto, which is a special type of fixed ignition Dixie, is mounted on the flat top of the case. A feature of the magneto is that it is driven at engine-shaft speed, having a special outside distributor arranged on the right-hand side to direct the high-tension current alternately to each cylinder. The higher speed at which the magneto is run should greatly facilitate starting...Immediately behind the silencer and just beneath the rear cylinder is situated the gear box, which is of the three-speed pattern, and

incorporates a Raybestos-lined plate clutch. The gear is operated by a quadrant lever on the side of the tank, while the clutch is actuated by a pedal on the left footboard. The usual Indian kick-starting device is also incorporated...the front down tube is divided into two, thus forming very neat hangers for the horizontal engine. Front spring forks, exactly similar to those fitted to the two-stroke lightweight Indian and on the early model 5hp V-twin Indians, are used. The action of these forks is somewhat similar to the famous Triumph front fork...Girders are not considered necessary, we are told, owing to the lightness of the machine. A most neat and compact appearance has been obtained by placing engine, silencer, and gear within the main frame, enabling the rear stays to be brought up close, so giving a delightfully short wheelbase, a somewhat unusual thing when the horizontal type of engine is fitted." The Blue 'Un slipped in an interesting postscript: "Some months ago we described and illustrated in these pages an experimental ABC horizontal twin lightweight, which was intended as an 'after the war' production. A strikingly similar mount described in this issue is the very latest product of the Indian factory." Soon after Hendee ceased production of its lightweight two-stroke. Ixion asked, "Has the two-stroke been scrapped out of deference to American prejudices or because the Hendee Co have satisfied themselves that the miniature flat twin has the two-stroke beat for ordinary purposes? We may have to wait a long while for this piece of information."



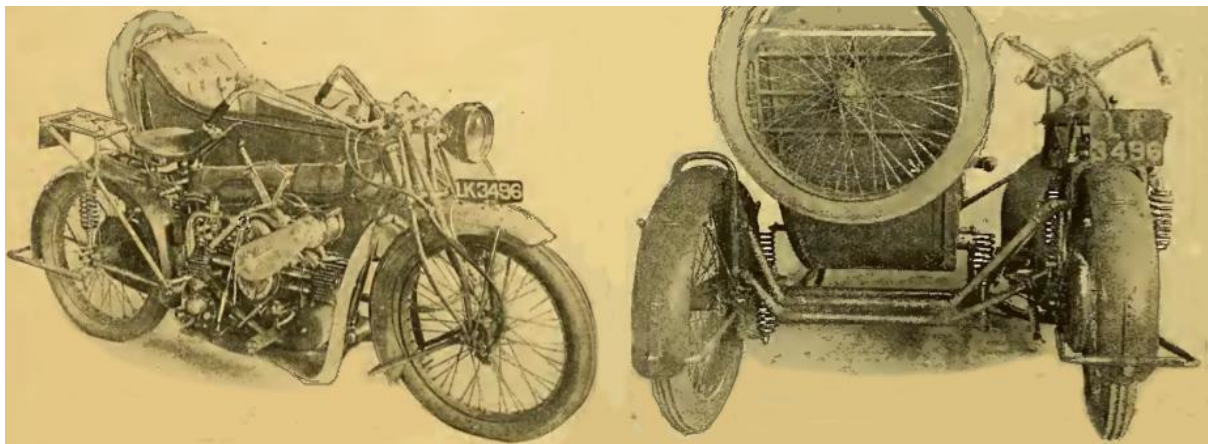
"One of the few entirely new productions to make their bow to the public since the fateful days of August, 1914, is the 2¼hp horizontally-opposed twin-cylinder engine which is announced as a leading line of next year's Indian range."



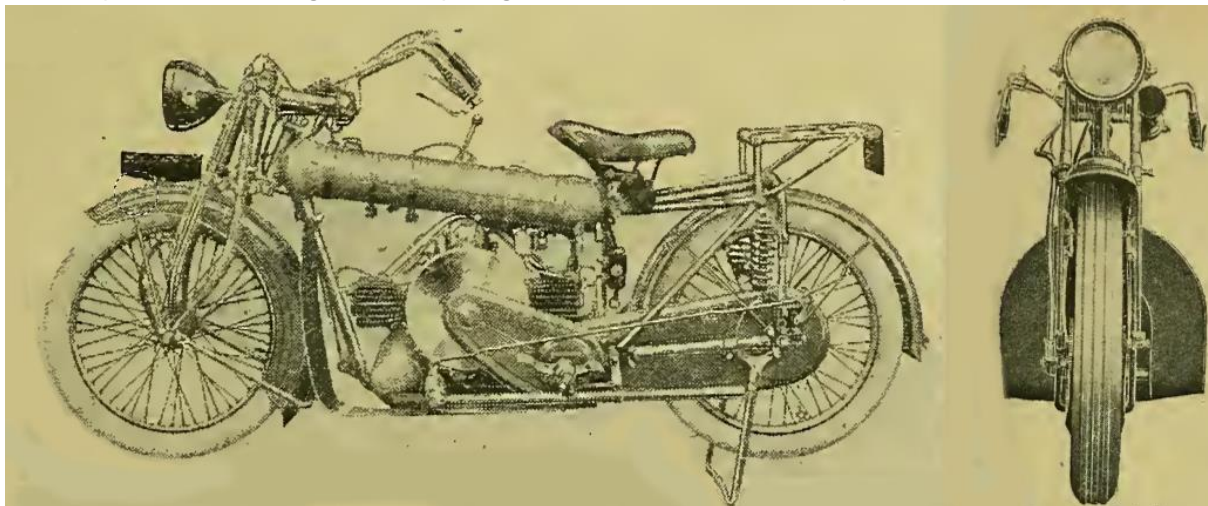
Following 18 months of roadtesting Humber released a 3½hp 497cc air-cooled flat twin to join its water-cooled 6hp sidecar hauler. *The Motor Cycle* opined: "From a short initial experience..."

we are decidedly of the opinion that it is the finest mount the Humber Co. has yet produced.” It featured a hand starter and heated inlet manifold.

MATCHLESS GOT IN ON THE FLAT twin act with a 732cc debutante: “No members of the motor cycle business deserve greater success than H Collier & Sons. Since 1903 the two sons have devoted their lives to the movement, and, by engaging in many competitions and races, have sought to evolve the perfect motor cycle. Having known both Charlie and Harry Collier for the past thirteen years, we have watched the progress they have made in the design of their machine, and have always admired their devotion to their business, which was also their pleasure. Now, for the first time, they have designed their own motor, and a very successful production it is. Being absolutely up-to-date in their ideas, they have evolved a 5-6hp flat twin embodying the very latest practice in motor cycle engine design. Furthermore, being cognisant of the magnificent future for British motor cycles in the Overseas Dominions, they have placed upon the market a well-trying and

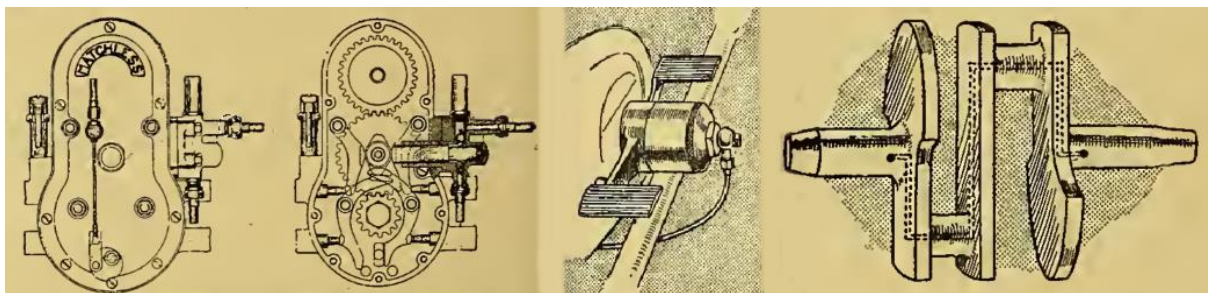


“Three-quarter view of the new flat twin Matchless; the whole design is new and original. Rear view of new Matchless sidecar combination, showing the duplex tube joining the sidecar and motor cycle, and causing the two sprung wheels to work in harmony.”



Left: “The newly-designed 5-6hp Matchless, which has a three-speed countershaft gear box and transmission by totally enclosed chains.” Right: “Front view of the latest Matchless, showing the sensible leg shields, which are extended under the engine and gear box, as shown in the lower illustration.”

thoroughly efficient spring frame, while not only has the absence of vibration of the flat twin led them to adopt this form of engine, but also the fact that the ground clearance is much greater than is possible in the case of the V type engine...the tubular tank of steel, containing two gallons of petrol, forms the top member of the frame, and has a slight upward slope towards the head. The down tube forms a sort of loop, and acts as a support for the engine...The system employed in the springing of the rear portion of the frame...is to interpose coil springs between the movable rear forks and the rigid portion supporting the rear carrier...The question of accessibility has been carefully studied in the design of the new Matchless engine arrangement, which is so carried out that the cylinders may be removed without taking the engine out of the frame...An interesting experiment is the fitting of aluminium alloy pistons, which so far have given every satisfaction...The clutch consists of two steel plates, hardened and ground, engaging with a central plate of cast iron forming part of the sprocket. An arrangement has been made so that, in the event of the machine being used as a solo mount, the clutch may be controlled by means of a Bowden wire from the handle-bar...The mudguarding has been particularly well carried out, the guards being 5½in in diameter, while an additional mud-shield is fitted to the down tube, and is arranged so as not to impede the cooling. This is continued below the power unit, and acts as an efficient undershield...The same system of springing as is employed in the rear of the machine has been adapted to the sidecar, inasmuch as both the wheel and also the sidecar body are sprung on coil springs."

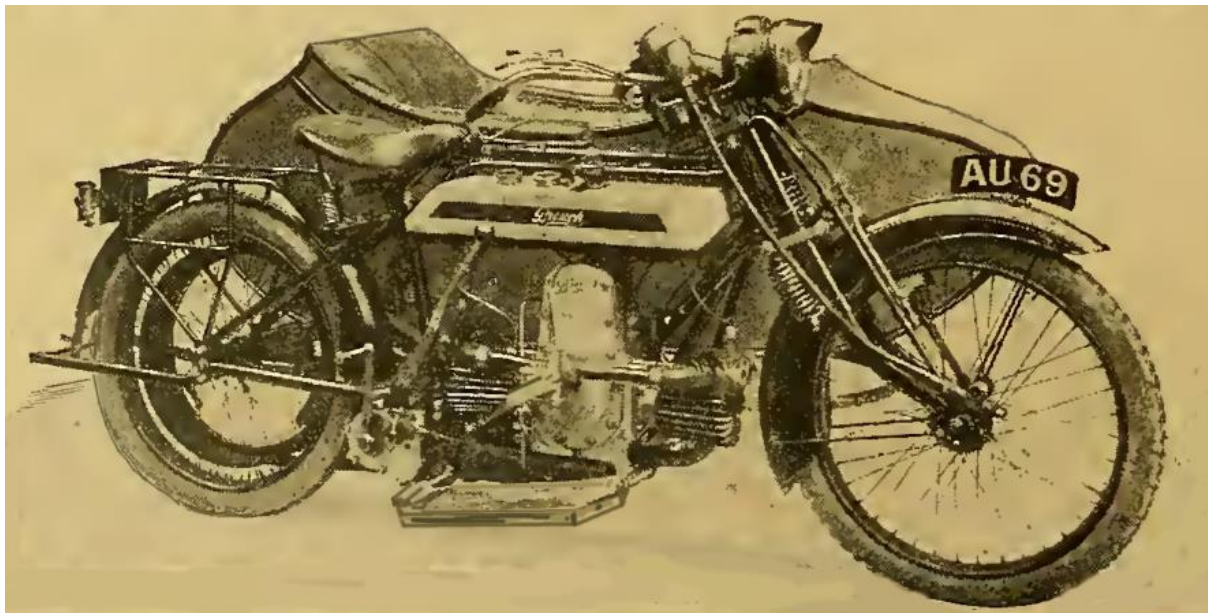


"General arrangement of valve gear and lubricating pump. The rocking form of clutch pedal is retained—note the oil lead for lubricating the clutch. The crankshaft, showing the manner in which the oil ways are drilled."

"APROPOS OUR RECENT ARTICLES on the subject of single vs twin, we hear that the BSA Co has under test a 6hp twin-cylinder mount. It is unlikely to be marketed until after the war, the firm's energies being applied to munitions. In the meantime we may be sure that the new BSA will receive an exhaustive test on the road. An acquaintance of ours has already tried its paces, and was greatly impressed."

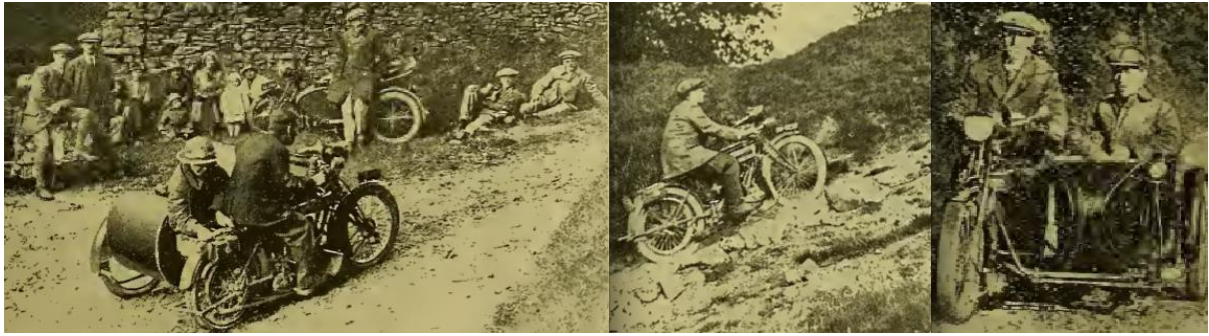
"AT THE PRESENT TIME, as will have been gathered from recent issues of *The Motor Cycle*, there is something akin to a boom in 'flat twins', as we have styled these horizontally-opposed engines. Some twelve machines are already well known to the motor cycling public, and among them the productions of Messrs WE Brough and Co, of Basford, Nottingham. The 3½hp model of the firm, or, as they are pleased to call it, 'The Pup', has proved its worth, not once, but many times, in competition, and it speaks well for the machine that it seldom appears in the second-hand market, and when it does, always commands a very high figure. The larger machine now makes its appearance in an improved form, and, without overstating the case, we may say that it is a very fine product in every way, but, unfortunately, for the present, it is not obtainable, for the simple reason that Messrs Brough are much too busy on important Admiralty work, which must not be delayed or interfered with in any way. The 5hp flat twin must remain in being only, so far as two or three models are concerned, awaiting the termination of the war, when it will take its

place as a standard model.” The 692cc twin was designed from the outset to be sold as an outfit. Transmission comprised a ½in primary chain, three-speed Sturmey-Archer gearbox and belt final drive.



“Threequarter rear view showing the rotund shape of the body, designed to accommodate tools and spares without disturbing the passenger.”

ORGANISED MOTOR CYCLE COMPETITION had all but ceased ‘for the duration’ but there were still challenging outings to be had. When the Nottingham & DMCC went hill-climbing in the Peak District club secretary WW Weldon “suggested to members that they should bring with them their passengers and luncheon baskets”. Features included “a stony, winding track of about 1 in 4 to the left of the road entering Matlock Bath”...The pilot should have been Mr I Cohen, the designer of the Sturmey-Archer gear, who spends his week-ends in search of ‘impossible’ climbs testing the invention for which he is responsible. Unfortunately, the previous day he broke the special piston of his 4hp Norton, and spent the morning of the event fitting another which had to be jury-rigged. Consequently, when he joined the party later his sidecar machine did not show up so conspicuously as it usually does.” Nonetheless, on a rocky stretch of 1 in 5 “Cohen’s Norton sidecar, though buffeted about on the boulders, stuck to its guns, but the other members of the party, with the exception of a rider of a WD model Triumph, had too much respect for their machines—and wisely refrained. From the summit of this hill a corresponding rise on the opposite side of the valley was observed. Closer investigation, however, proved it to be a mere footpath leading from a disused lead mine, only fit for motor bicycles. The Triumph rider, reconnoitring for the party, made a clean ascent at the first time of asking, despite two stone ridges six inches high and a thirty yards pitch roughly measured at 1 in 3...The lessons of the day were that gradient alone cannot stop the modern three-speed motor bicycle. Where it is possible for the tyre to obtain a grip at all, and also, incidentally, for the rider to retain his seat in the saddle, the present-day motor cycle may be relied upon to succeed every time. Another point demonstrated was, the uselessness of a foot-operated clutch on rough surfaces. Boulders constantly threw machines out of their path, and only by the rider steadying himself with his foot and easing the hand-controlled clutch could the ascent be continued successfully.”



The Notts hill-climb (from left): “Interested spectators of a single-cylinder sidecar which made a good climb. A WD model Triumph on a stretch of 1-4 gradient near Birchover. I Cohen, the designer of the Sturmey-Archer three-speed gear, on his Norton sidecar.”



Meanwhile in peacetime

America the club scene was thriving.

“BRITISH MAGNETOS ARE CERTAINLY making good,” Ixion wrote, “and on the whole I have had a very good time with those that come my way. As one might expect, the smallest details are those which cause trouble...In all points our baby industry seems to have caught up the long start which we foolishly allowed Herr Bosch to snatch; and I have good hopes that, when the war is over, we shall see a British magneto with a rocker arm which cannot stick up—an innovation which will save practised riders much annoyance, and protect tyros from straining their hearts and bursting the ganglion which controls the swear nerve.”

THE SALES MANAGER OF a US manufacturer covered 60,000 miles in a world tour of potential motor cycle markets, taking in China, Japan, Java, India and “the Colonies”.

WHEN A SANITARY ENGINEER needed to inspect six and a half miles of sewer beneath the streets of Pasadena, California he did it in style. A motor cycle was lowered into the tunnel; “the engineer rode on the carrier, scrutinising the walls as he was driven along by his companion”.

“SIR,—‘SOME MAY COME, AND some may go, but Norton goes on for ever’. Nothing on earth, or Brooklands, in my opinion, will ever oust this magnificent production. Usual disclaimer.

HW WILLIAMSON (Lt), MGC.”

“SIR,—AS MUCH AS I APPRECIATE the good points of the models supplied to us, I am longing to return to my own mount, namely, a Harley-Davidson, which machine carried me with full camping equipment across the USA, a distance of 3,125 miles, to New York, without the slightest mechanical trouble, A great portion of this distance was over trails which even out here at the Front we would not designate as roads. It took seven weeks to complete the journey, this, of course, including stops for sight-seeing, such as Chicago stock yards, Lake Erie, and Niagara Falls, not forgetting Milwaukee, the home of the Harley-Davidson. The worst roads encountered were in Dakota, Wisconsin, and Michigan. In the latter State we had quite a hostile reception from the German settlers, who appeared to guess our ultimate destination, but we pushed on, and finally landed in Broadway, New York, none the worse for our experiences. After a week’s sojourn in New York, we boarded the Adriatic, reaching Liverpool in eight days.

R FRANK (Cpl) RE.”



“Testing RFC P&Ms at Brooklands and incidentally illustrating their ease of steering. Riding hands off with a passenger on the carrier is a particularly ‘ticklish’ undertaking.”

“WE HAVE RECEIVED FROM a correspondent a booklet dealing with the Koehring Mixer. What the Koehring Mixer is or what it does is no concern of our readers or ourselves, but in the pamphlet is to be found a rather cunning eulogy of the sidecar, which we reproduce below in the real ‘American’ language: ‘The Man with the Sidecar—We have seen beautifully finished, costly automobiles with all the ‘class’, distinction, snappy lines, and freak tops that fancy paint-mixing and money could produce but the most beautiful family car we ever saw was a second-hand motor cycle with a home-made sidecar. The sidecar wasn’t even painted. It carried the other two-thirds of the family—a wife, who, you could be mighty sure, had given her youth and good looks to the family welfare, and a youngster dolled up like a little princess in a fairy chariot. The man on the motor cycle plainly showed that he was not the ‘son’ of anybody, and that his living came from hard work. His motor cycle outfit was the product of industry, thrift, and his own ingenuity. We maintain that he is a better man than many of the nabobs who ride in the stunning big car, for several reasons: First of all, he built part of his outfit with his own hands. How many nabobs can even turn down their grease cups? Secondly, there’s no hypocrisy or four-flush about him. Best of all, he takes the whole family along; he finds companionship where he

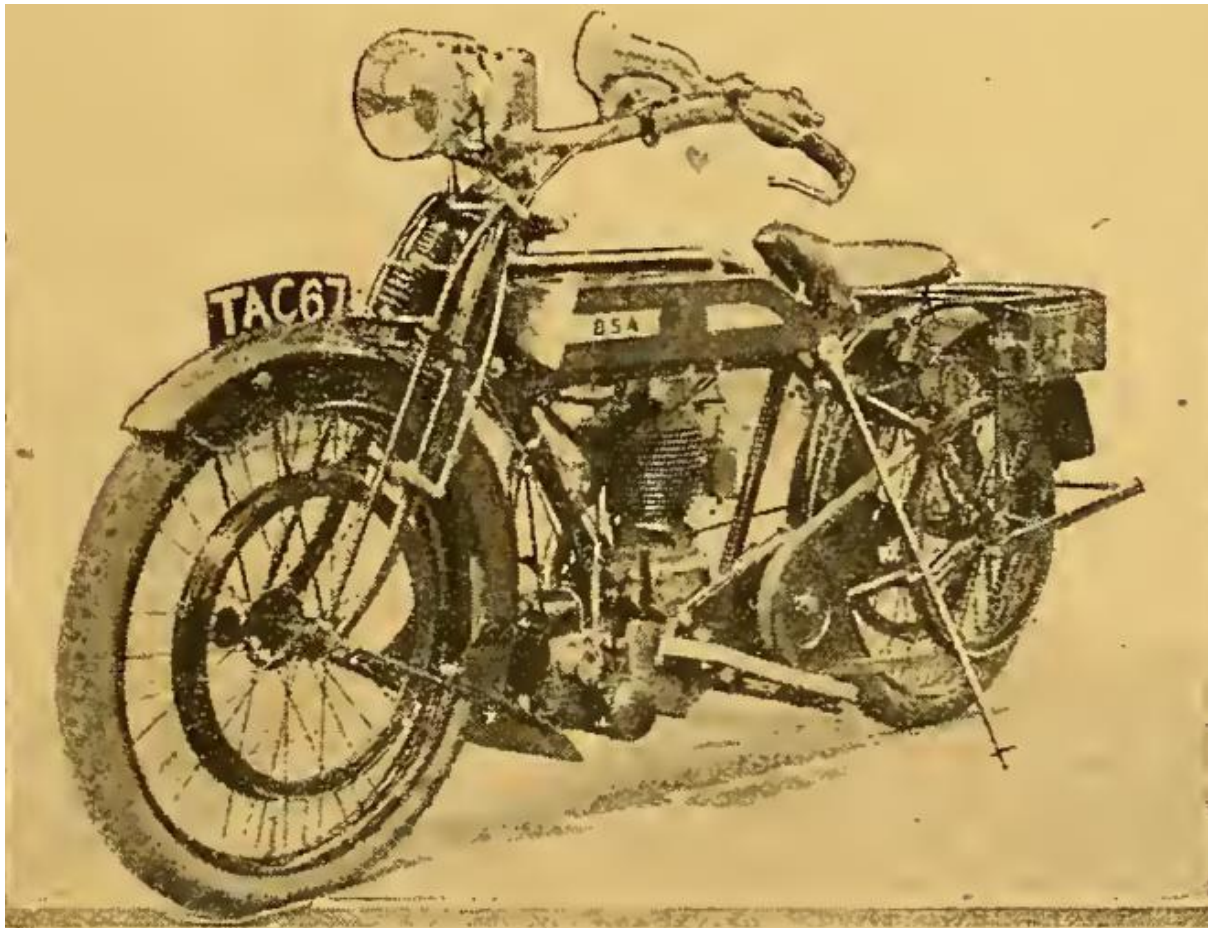
should find it—with his family, not with the ‘boys’ or at the neighbouring saloon. We believe that the sidecar is the sign of a real family man, a symbol of his thoughtfulness and affection. Our hats are off to the man with the home-made sidecar.”

“MOTOR CYCLIST INFANTRY IN GERMAN EAST AFRICA. More Experiences of Motor Cyclists with General Smuts...from a letter received from an officer serving with the South African Motor Cycle Corps: Up to ten miles from Voi (the junction of the new line being built to German East) the ground rises slightly, and the road is straight and very good. My platoon was the advance guard, so it was a grand sight to see the 400 BSAs thundering along with their exhausts open. When the corps is on the move it covers seven miles of road, and the engines make a noise just like the breakers on the sea shore. We made fifty miles the first day, which was very good when one takes into consideration the numerous stops which were made to enable the men to adjust their kits and machines I might mention, incidentally, that our kits take some fastening on, as we carry everything on the cycle. There is about 140lb of kit and equipment, viz, blankets, change of clothing, spare boots, three days’ rations, 300 rounds of ammunition, dynamite, cooking utensils, rifle, bayonet, sou’wester suits (oilskins), overcoat, semaphore flags, and a hundred and one other things too numerous to mention. We slept the first night by a river, and started off again just as dawn was breaking. The temperature was 120° in the shade, and encountering many rivers with their cold water



In the East African campaign motor cycles were not restricted to liason duties—they were used as cavalry mounts. Despite supply problems with fuel and spares they did sterling service. For river crossings each bike was lashed to two poles and carried by four riders.

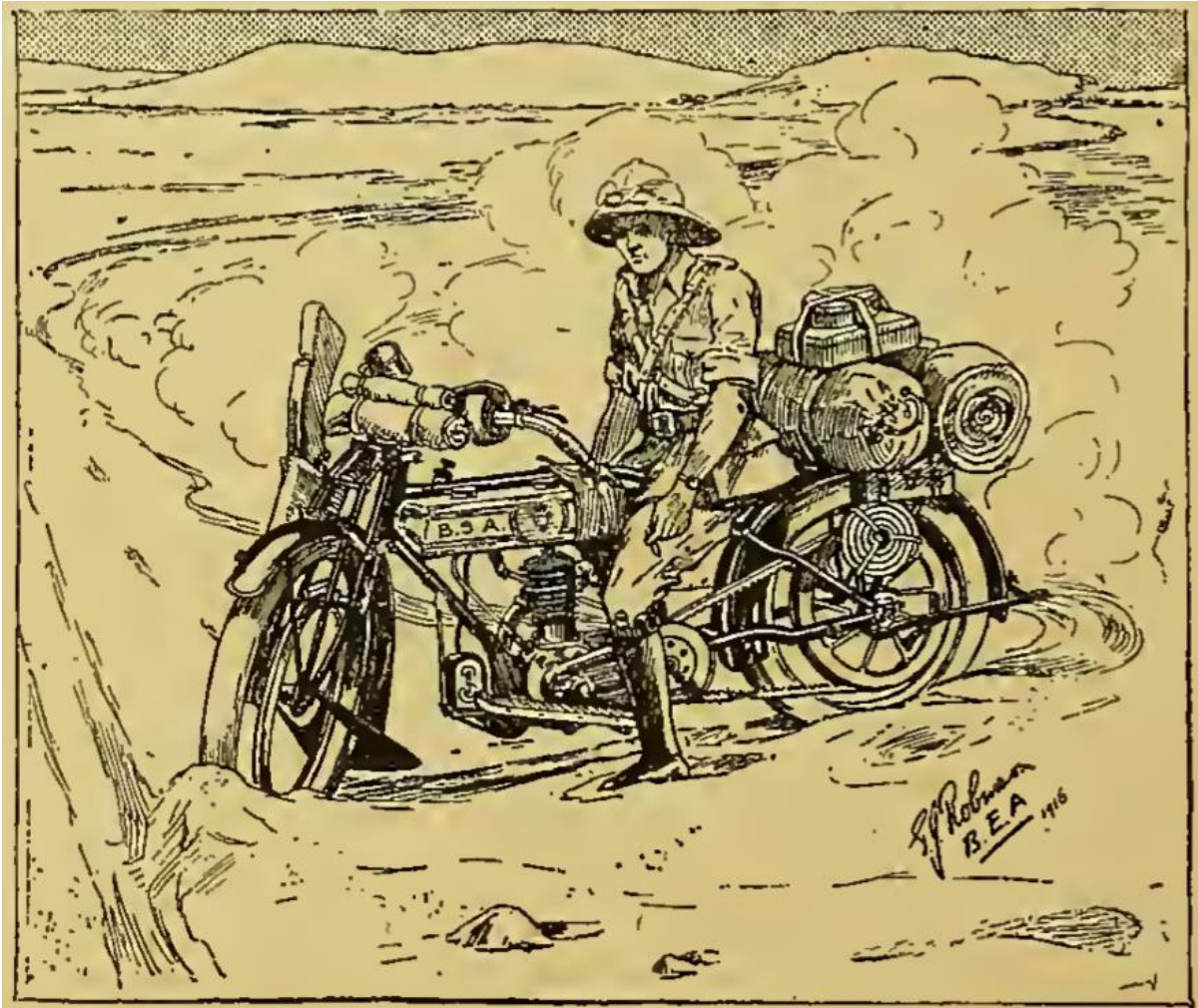
every couple of miles was a godsend. We again slept on the banks of one of the numerous rivers and struck camp just as the sun was peeping over the horizon. We struggled along manfully all day over the worst roads it has been my misfortune to see, but darkness overtook us before we reached our destination, ie New Mosche, which it was essential for us to reach that night. The roads were bad in daylight (never once getting beyond first gear), but, good heavens, riding the same roads at night with all the men knocked up was simply appalling. However, we pitched up at New Mosche (well in the enemy’s country), at about 11pm dead beat. The next day the CO told us we could devote to overhauling the machines, and I can assure you it was needed—Seventy-five per cent of the footboards had gone, and nearly every handle-bar required to be straightened, but with the exception of minor repairs, such as replacing nuts, straightening forks, etc, there was no material damage. From New Mosche onwards we had sand so deep and soft that the footboards were dragging in the sand that had been made by those in front, and when a poor unfortunate fellow stuck you can just imagine the language that was thrown at him by those in the rear. It was impossible to turn out and pass the offender. However, everything comes to an end, even a road in German East Africa, and on the third day we pitched up at Kondoa Irangi. It was about 11am as we rode down the slight



“THE result of military experience overseas. The BSA machines used in the German East African campaign are fitted with auxiliary back stands in the form of props as illustrated. These are very necessary in sand and loose ground.” Identical field stands would also adorn BSA’s WD M20s in Round 2. Of course WD Beezas in the Great War were sidevalve 500s with girder forks and rigid frames, while after 30 years’ development the M20s had...

incline into Kondoa Irangi, and the Huns gave us our first baptism, of fire, putting about twenty shells into us from the long range gun (brought from the Koenigsburg), but as we were riding at one hundred yards distance between each cycle nobody was hit. We took up a portion of the defence known as ‘Observation Kop’, and sweated here for six long weary weeks, enduring many hardships. When our large guns got down to us we were able to retaliate a bit. Up to the present, after 2,800 miles, with the cycles very much overloaded and used over the worst roads (?) in the world, there is not one machine that cannot take the road at once. Only one gear box has been taken down, and this was owing to the rider having forgotten to fill it up with oil; consequently it seized. The footboards have nearly all been torn away, and 50% of the carriers have broken, owing to the excessive weight loaded on to them. We have found that Dunlop tyres are the best for this rough work, as they appear to be hard and able to resist the action of the sand, and the thorns break off before they penetrate sufficiently deep to puncture the tube.” An English lorry driver with Motor Machine Gun Service British East African Expeditionary Force, possibly piqued that he didn’t get to ride one of the Beezas, wrote home: “...we and the SA motor cyclist corps (rather a ragtime crush, who can’t ride for toffee) rushed in, and there was great competition to be the first Britisher to cross the German cross-Continental line.” A Motor Cycle correspondent had a chat with South African Motor Cycle Corps rider: “He was gathering a few dried sticks preparatory to making a fire when I called him over and invited him to use our Primus to boil his

billy can. Accepting with thanks, he put his tin on the stove, and then set about getting his blankets down for the night. 'He' was a South African despatch rider attached to our MMGS armoured car, which at that time was acting as a 'mobile blockhouse' on outpost duty. In this distressful



"An equipment worthy of the name. A load frequently carried hundreds of miles by despatch riders in German East Africa."

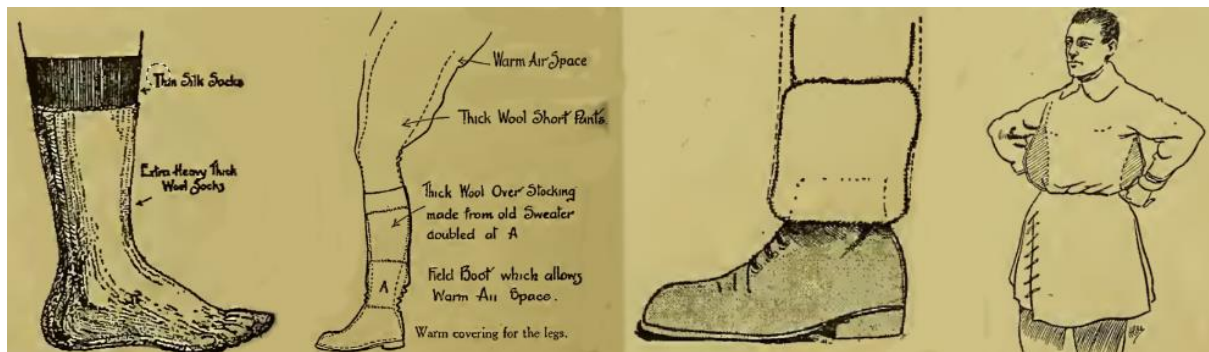
country the army is nearly always on the move, and the DR has no base billet to return to each night. He must carry absolutely every atom of his kit and equipment with him, and the luggage carried on my new friend's BSA would have made some of our home riders open their eyes. Firmly strapped across the carrier were a large kit-bag and a roll of blankets done up in a waterproof sheet, surmounted by a mess-tin and a tin of 'bully'. On the near side a spare belt was coiled up under the pannier bag, and on the off side a despatch and map case. The saddle downtube carried a spare inner tube in its leather case and a spare water bottle. Bags holding flour, coffee, and sugar were tied to the handle-bar, together with an enamel drinking mug and a tin of beef fat. Attached to the front fork was a long rifle holster, in which were a rifle and signalling flags, while on the other side of the fork were a native spear and a bow and arrows—souvenirs. A spare pair of puttees wrapped round the tank served as knee-grips. The rider himself—a tall, well-built, sun-brown Colonial—wore just a tunic shirt, open necked and with sleeves rolled up, and riding breeches and leggings. On the road he carried water bottle and haversack on either shoulder, with his knife, spoon, and fork shoved down the top of one legging

and pipe down the other—decidedly unpleasant articles to fall on in the rather likely event of a spill. After tea or dinner, or whatever you like to call a meal of bully, coffee, and dough cakes fried in fat—our staple food out here—we sat together on the back of the car, and, with pipes pulling well on sweet Boer tobacco, exchanged motor cycling experiences. He told me that the DR's Corps was recruited at 5s 6d a day about the beginning of this year, and after very little training landed in German East Africa, all equipped with new BSAs. The majority of the men had been through the German West African Campaign. 'Of course,' he said, 'you fellows out from home feel these roads far more than we do. They have plenty of roads in SA with six inches of sand like these, but you are used to riding on billiard tables. The Americans are much better in this respect, and that is why they are so popular down below. Still, on the whole, we prefer English makes; they are so well made. See how these have stood up to it'—nodding his head towards the BSA. 'It's a terrible load they've got, especially over these roads, but now we trust 'em more than horses. Wish the clutch were on the handle-bars, all the same, and I've had to bend the bar out, too. Almost all of us are going to come home to join up again and see what France is like after this. I wonder what sort of a job despatch riding is over there; out here we have to cook all our own "scoff", such as it is, never seeing a trace of civilisation, and riding through the sandy bush for hours on end. But I suppose slithering through shell fire all day must be very merry hell..."



IN ITS FIRST YEAR OF PUBLICATION *The Motor Cycle* was moved to warn its readers to wrap up warm as the nights drew in. In the intervening 13 years specialist motor cycling gear had evolved but the 'multi-layer' method of trapping air was little known—unless you came from somewhere cold..." Being a Canadian and used, as readers can imagine, to great cold, I will outline a few hints and tips as to how to keep warm on the coldest winter day... The usual method in England employed to keep out the cold generally amounts to smothering oneself in multitudinous clothing, leather waistcoats, or leather coats, overalls, oilskins, etc, until one looks like a petrified mummy. Have you ever seen an ordinary no account grey pirate of a two-legged sparrow try to keep warm? He puffs his feathers out at very nearly right angles to his body, with the result that he creates a warm air jacket around himself, and that is the whole secret of keeping warm... First get, beg, borrow, buy, or steal a real wintney blanket, and make what we call a parka. Now blanket is about the finest material we can get for keeping out the cold, and, strangely enough, it ventilates in the most extraordinary way. For instance, many a time have I seen my 'pard' 'packing' a trail for the dogs. (That is worse than pushing a 7-9hp combination in compression on low gear, I can assure you, and getting whiter and whiter every minute through his perspiration oozing through and freezing solid on the outside.) Make your parka on the very loose side, so that when you buckle it across the middle you have an air space all round your vitals as in the sketch... there being more rain than not, you must wear an overall over the parka... Now although you have your parka on, I suppose it is needless to tell you that you must

still wear your flannel shirt and vest and pants. My own plan is to wear a silk vest next to the skin and a wool one over that. The same with your nether garments...It may astonish you, but the most



From left: "Wool socks over thin silk socks. Warm covering for the legs. Canadian socks worn under trousers. A coat made of witney blanket."

vulnerable parts of your anatomy for feeling cold, or rather for conveying cold to your system, are the shins...Personally, I wear field boots, one pair of silk socks, one pair of heavy wool over them, and a pair of Canadian socks...if you cannot get them...take some old sweater and cut off both arms, slip your leg into the arm, and pull to its full length so that the sweater arm covers from just below the knee to the heel. Now take the heel part and turn it back until it reaches about the middle of the calf. The doubled over part fills every cranny of the loose part of the boot (looseness again, you see, tells), thus forming a very warm nest for the ankle and effectually warming the foot down to the toes, the upper part of the sweater warming the shin bone and lower leg. For the thighs, a good thick pair of Bedford cord breeches will do with your wool pants; but, to feel really warm, over the pants should be worn very loose wool breeches cut on the same principle as the Bedfords as in the illustration. You would have to have these made, but they repay you, as cold is a thing of the past when wearing them. Now as to gloves. You cannot do better than purchase a pair of bag gloves with the index finger free from the bag part, but be sure to get a pair that straps at the wrist. You will want a pair of similar gloves of light wool inside them. For headwear I have never worn anything more cosy than a racing helmet, and I cannot recommend anything better; but, attached to mine, however, is an adjustable flap that I can pull down at will to protect the eyes in rain. To close. Do not forget a woollen muffler round your throat. This will keep the draughts from exploring too familiarly. Never go out feeling cold. If you do feel cold stamp or run about until you feel warm, or try and start your engine on paraffin (I guarantee this will warm you), but do not go near a fire to get warm whatever you do. **HM**"

"VOLUNTEERS ARE AT LAST TO BE RECOGNISED under certain conditions. The announcement of the terms of recognition was made officially last week, and would please thousands of our readers who are members of motor volunteer sections. Another development of interest to men on Home Service is the decision to form sidecar machine gun batteries for attachment to cadet battalions."



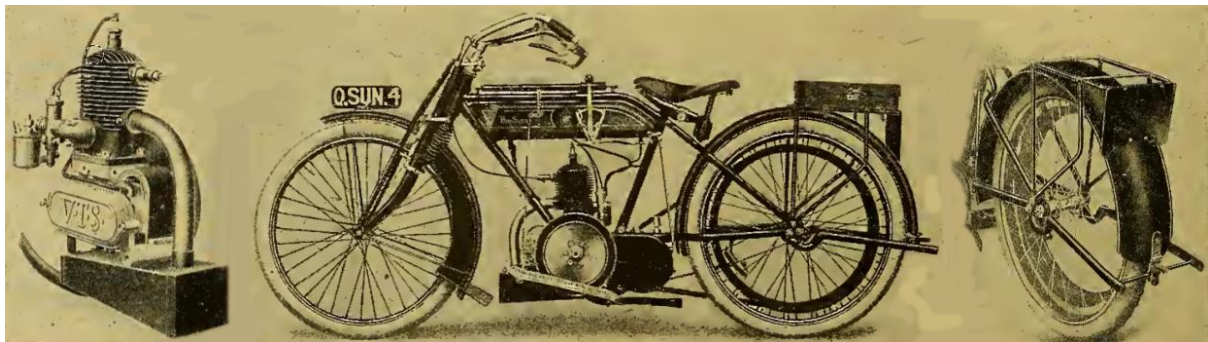
Active North-Country motor cyclists: The motor cycle section of the Liverpool Heavy Car Battalion of the National Motor Volunteers on their weekly turnout. The section is a growing and important one.

“MOTOR CYCLE RACING IN SPAIN: We have received an account of a motor cycle race which took place in the Paseodel Principe and Boulevard, Almeria, Spain. The course was 152 kilometres, and the competitors were sent off at intervals of five minutes. M Herrera, mounted on a New Imperial motor cycle, was despatched first, and, finishing the course in 71min, easily proved to be the winner. Jose Martinez, on an Alcyon, came in second, and took 15min longer to cover the ground. We are always pleased to hear of such successes; it shows that the British makers are still endeavouring to hold the market abroad, and are putting good material in the goods they do send out. It is by superior workmanship and durability that we shall keep our Overseas trade, and nothing will be more beneficial to us than to see a single British machine coming out on top against a crowd of foreign makes.”

“A CURIOUS COINCIDENCE: On the very day previous to our leading article appearing on the British magneto, in which it was stated that neither individually nor as a body have the British motor cycle manufacturers expressed their determination not to use foreign magnetos after the war...Adjutant Pilot Baron and Adjutant Chazard had bombed the Bosch magneto factory in Stuttgart. Dense smoke was seen rising from the factory as the result of the bombardment. The French are evidently in earnest about this matter, even if the British are not.”

“THERE SEEMS TO HAVE BEEN a tendency of late to relegate the two-stroke machine to the background, and we have, not infrequently, heard the opinion that its popularity will not last. We are at a loss to know on what foundation such statements are made...the thoroughly good two-stroke engine will always command a considerable popularity; its even, smooth running, quick acceleration, and simplicity will outweigh any minor disadvantages, most of which are rapidly being eliminated; noisy exhaust, oil slinging propensities, extravagance in petrol, and carbonisation now cause very little, if any, trouble to the owner of a modern well-designed engine. The Sun Cycle and Fittings Co for several years past have marketed a very reliable series of lightweight models...The heart of the machine is still that excellent engine, the VTS, of British manufacture, dimensions 70x70mm, giving 269cc, or approximately 2½hp...A very neat type of decompressor or release valve is fitted, operated by Bowden cable...A British-made magneto,

the Thomson-Bennett, is fitted as standard, a sign of the times which points to the rapid advance of British magnetos, and gradual ousting of the numerous foreign makes. The silencing of the exhaust is one of the most notable improvements, an unusual type of exhaust box being employed. It is rectangular in section and tapers from front to back; the interior is divided into two chambers, and the exhaust ultimately reaches the open air through a flat-ended tube. An Albion countershaft gear box is incorporated in the two-speed models, driven by Hans Renold chain running in an oil bath gear case...Perhaps the chief alteration in appearance is the back mudguard and carrier. This guard is now made 7in wide, and flatter in section than usual, set well up to give plenty of clearance, and a neat grooved fitting to the bottom stays is added. Side wings are omitted, and it is next to impossible to get the guard choked up with mud. The carrier is set further back and slightly lower, and forms in one with the guard a very substantial piece of work. Tank, frame, Druid forks, brakes, and all the usual fittings are of noted British manufacture, and go to complete an excellent specimen of the two-stroke lightweight motor cycle. It is very interesting to note that a number of these machines are destined for Portugal, our ally being one of the latest to buy in the English market."



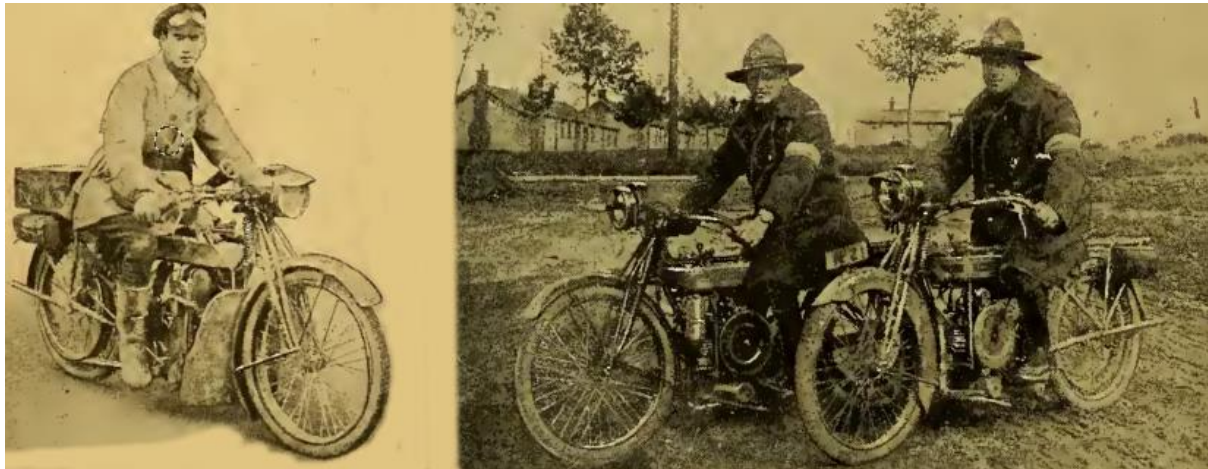
From the left: "The latest type of engine complete with the new silencer, and incidentally showing method of mounting the British-made magneto. Flywheel side of the 1917 model 2½hp Sun-Vitesse lightweight...the rear mudguard is of exceptionally wide dimensions."

THE POLICE IN THAT EXTENSIVE district known as the Metropolitan area are more active than ever against motorists. A page of The Motor Cycle would hardly suffice to deal adequately with the police traps in the Metropolitan area, and many and varied would be the tales of woe revealed...All these are placed where there is no apparent danger and there is a temptation to exceed the limit slightly...Special constables who are motor cyclists or car owners should remember that by joining the Special Constabulary they release officers of the regular police force for this un-English practice."

IN SOUTH AFRICA THE Pietermaritzburg MCC's annual trophy run, took in 157 miles of "typical Overseas roads". Of the 23 entrants 13 were on big American twins, but the winner rode an ABC.

"THE AUSTRALIAN GOVERNMENT proposes to increase the licence fees on motor cycles, and to prohibit all speed trials. It recommends these drastic proposals because, in its opinion, races and overloaded sidecars seriously damage the roads. Moreover, it contends that motor cycles are the noisiest machines on the road, hence the proposed prohibition of trials. A special sub-committee has been appointed by the Victorian and NSW MCCs to prevent, if possible, these proposals being carried into effect. It points out and illustrates a report showing the serious damage done to the roads by untaxed horse and bullock teams. To suggest that rubber tyres damage some of the Australian roads is worse than accusing a camel of damaging a desert tract in the Sahara."

“MULTI-COLOURED BALLS SMELLING, and sometimes looking, like moth ball, which are claimed to remove carbon deposit from the pistons and cylinder heads of internal combustion engines” were being touted by a number of firms. The Autocar commissioned an analysis of the magic balls with a predictable outcome.



FROM LEFT: “This photograph will assist readers at home in realising the very bad road conditions in the French war zone during the winter months. The rider is L/Cpl JF Harvey, formerly in the motor trade in Liverpool, who joined the army three days after the outbreak of war. Two hardened New Zealand campaigners—Cpl AJ Davies and Cpl FC Garland. After despatch riding in Egypt, New Zealand and the Dardanelles, they are back again in England, with a mileage of 40,000 to their credit. Their machines are 2¾ hp Douglasses.

FOR THE FIRST TIME ALL twin-track vehicles were required to show two front lights; logically enough, one on each side.

“AS IT IS MORE AND MORE difficult to get repairs carried out, motor cyclists will have to rely still more on their own skill and resourcefulness, and we advise those who contemplate overhauls during the winter months to read all the books they can on the management of their mounts.”

“THE HARLEY-DAVIDSON MOTOR Co have just completed, through their London headquarters, an order for over 300 sidecar outfits, several thousand tyres, and a big stock of spare parts for the Russian Government. The whole consignment was shipped within three days from receipt of order.”

“THE WISCONSIN AIRCRAFT ENGINE had many features that were seen as the future of motor cycle engines. It was a DOHC straight six “largely constructed of an aluminium alloy, the crank case, the pistons, and even the cylinders being of this metal”.

“THE TERM ‘FLAT TWIN’: Under the heading ‘A few Spare Links’, EB Holton, writing in an American contemporary, says: ‘Here’s one from the other side, and, as it is good, I hope we adopt it into our own lingo. It is the English appellation for a double opposed motor, and is “flat twin”. The beauty of it is that it fully describes the type, and at the same time is short.’”



"A youthful rider of a lightweight:

Master George Dalmeanle, aged 5, a member of an American troupe of trick cyclists, with his specially constructed lightweight which he rides on both streets and stage."

ONE CYLINDER OR TWO? The horrors of the global war did not shut down the debate between aficionados of one-lungers and V-twins. Their relative merits, notably speed, fuel consumption, rider comfort and ease of maintenance, were picked over endlessly in the editorial and readers' correspondence pages of the Green 'Un and Blue 'Un alike. Norton was among the leading advocates of sporting singles so no prizes for guessing which side James Lansdowne took when he wrote to The Motor Cycle: "So far as sheer speed goes, the single has generally proved itself the equal, if not the superior, of the twin of equal capacity. Neither the usual V twin nor single can be perfectly balanced, but the difference in vibration, or absence of vibration, of a good single and V twin is negligible (frequently unnoticeable), and I have more than once heard pronouncements in favour of the single on this score. This is opposed to correct theory, and is merely evidence that, as a type, the single is most advanced. The notion that a single is uncomfortable or unpleasant to drive may be dismissed at once; this is borne out by numerous riders of all ages. I believe, in the matter of economical fuel consumption, the average single is ahead of any type of twin. It would be interesting to learn the usual mileage per gallon of various 500cc twins as compared with singles of the same cc, both solo and with passenger, particularly during winter riding. Comparisons of speed, power, or acceleration, with decisions in favour of the twin, are most frequently made by the owners of big twins against presumably 500cc singles; such comparisons will not greatly help us. 7hp, whether developed by a single or multi-cylinders, should score on these counts every time; but if equal capacities be compared, then I venture to say the simple single will give an astonishingly good account of itself to its critics. Perfection is not claimed, there being room for improvement in this, as in all types, but there is a place for it in the scheme of things—a big place—and it is impossible to say that it will not occupy a bigger place than other types in the future, as it certainly does to-day, and purely on account of its intrinsic merits of simplicity, economy of upkeep, and general all-round efficiency. It is at present the utility mount par excellence. I have also read 'Ixon' on single vs twin. I regularly turn to his articles with interest and pleasure, but my faith in the soundness of his deductions or decisions received a severe shock when I read that he would give up motor cycling altogether rather than ride a single or a heavy twin, which statement will be taken to

mean that, in his opinion, such are unfit to ride. Surely 'Ixiion' cannot mean this, or has his keenness for the road and motor cycling interests, so far deteriorated? I hope not."



"A Canadian Scottie helping a Clyno ammunition sidecar out of a difficulty. This official photograph shows the appalling state of the roads. Correspondents often attempt to convey an idea of the muddy surfaces, but the photograph reveals fully the unspeakable difficulties of transit. Even the caterpillar 'tanks' would have trouble here!"

IXION COULD BE DEPENDED ON to make a valid point with oodles of style: "Inaccessibility, Thy Name is——! Tyro Juggins, Esq, was proudly showing off his new machine to a circle of local enthusiasts, when the shabby veteran on the outskirts of the mob asked how the gear box was lubricated. Mr T Juggins had got the book of the words by heart before receiving delivery, and mentioned a plug in the top of the gear case. The veteran meekly asked to have the plug pointed out to him. After considerable search the plug was discovered to be situated on the forward curve of the gear box roof, deadlocked in front by the crank case, at the back by the gear box itself, above by the magneto, and enfiladed from both flanks by the steel brackets supporting the gear box and the magneto. In other words, before grease could be injected, it was necessary to remove the belt, two chains, various sprockets and pulleys, and, last but not least, the magneto. As a member of the mob remarked when homeward bound, "That's the worst of those assembled machines made of parts with proprietary gear boxes."

NO APOLOGIES FOR PRESENTING more of the same: "The approach of wet and mud has sent me back to a creepy-crawly again, to wit, a baby two-stroke and rather a nice one at that. Mothball my petrol, but the little beasties are unco' slow after the big 'uns. A pal of mine says they are the only sporting mounts left, because, if you take them to really hilly country, you are not always too certain of getting up, and their exhaust reminds you painfully of the old diminuendo, "I-think-I-can, I t-h-i-n-k I can, I fear I can't!" of the old 2¾hp Lincona belt days. Anyhow, my baby is in topping tune just now; slow, but sure, you know. It brought me recently up a two-mile hill, commencing with a fierce pitch of 1 in 6, and on the easier landings it positively accelerated to about twenty miles an hour. The babies have one merit the 1905 abominations never had; they are tolerably easy to restart on a grade; one does not have to go down to the bottom again, or search for a side lane out of which to pick up a new rush. Just give them three

yards with nobody in the saddle, and they reach their climbing rpm again. Mine is doing wonders at present, and I think its rejuvenation is largely due to a Sphinx plug, which does not get hot. Mr Prestwich tells me the plug which stood up best in his tested septette was a Sphinx, and mine seems to be of the true Egyptian brand.”



“AF Dodge, a veteran motor cyclist, who uses his Rudge-Multi exclusively for business purposes. He is out every week-end with his camera, wet or fine, riding on the most appalling roads, and has the reputation of never stopping for weather.”

“CONGRATULATIONS TO OUR PARENT journal, The Autocar, which celebrates its twenty-first birthday...The Autocar is a year older than the British automobile movement itself, as it first saw the light on November 2nd, 1895, when it was not lawful to use a motor car or motor cycle at above four miles an hour, and unaccompanied by a man and a red flag. Until The Motor Cycle enjoyed a separate existence in the spring of 1903, our parent journal dealt with motor cycle matters.”

AT RUDGE-WHITWORTH’S AGM chairman C Vernon Pugh reported that Government work “had reached a very large and very important figure, and that the output of the company’s own natural trades—cycles, motor cycles, and motor wheels—had correspondingly shrunk, and was now almost at vanishing point. Continuing, he thought it would be a problem, which the directors would regard with a considerable amount of anxiety, how the output of those natural products would be resumed when the present urgent necessity for Government needs slackened and, as they hoped, disappeared.” He added that the Rudge workforce had grown from 1,817 in July 1914 to 5,770.



Workers from the Royal Aircraft Factory (known as the RAF two years before the RFC became 'the' RAF) got together for an 'informal' hillclimb at Farnham. Pictured (from left): E Mannings (3½hp Norton) won the 560cc class; FW Hart (7hp Indian) was second in the sidecar class; E Perrott (2¾hp Douglas) won the 350cc class.

FAR, FAR FROM WIPERS...A rider from Parramatta, New South Wales, reported on the perils of motor cycling Down Under: "A short time ago I was spending a holiday in the Illawarra district, and had a very amusing experience. There was a spot where the track passed near a water-hole, which, according to the stories told by the local 'blacks,' was inhabited by a 'bunyip'. Now, the 'bunyip' is the aborigines' idea of a ghost or spook. For instance, if a spot is supposed to be haunted, the aborigines will say that a bunyip lives there. This imaginary creature is supposed to inhabit swamps and water-holes, and is greatly feared by the natives. I was passing this particular spot one very dark night on my way back to the station where I was staying. As I drew near the water-hole I heard a strange shuffling noise ahead of me. I had a splendid lamp (a very big P&H), and as I looked ahead I saw what seemed to be a mass of glittering stars, stretched across the road and into the bush on either side. I promptly lowered the Zenith's gear, and let the machine crawl slowly forward; at the same time I got out my Colt's .44, which I had in my hip pocket. The 'mass of stars' started jumping about as I got closer, and I began to feel 'a wee bit queer'. I listened intently for any sound which might give me a clue to the meaning of the strange phenomenon. The glittering mass was now only about twenty-five yards ahead of me, and as I stood beside my machine I could almost feel my hair standing up. Not a sound could be heard. Suddenly a loud 'Baa' broke the ominous silence, and relieved my suspense. It was only a flock of sheep standing in the darkness, with their eyes glittering in the light of my lamp. I felt rather sheepish, I can tell you. In a country like this (Australia) motor cyclists often have very novel experiences. I have had a Brooks saddle almost eaten by a cow who suddenly developed a taste for leather, and, again, I have had tyres eaten through by a cockatoo."

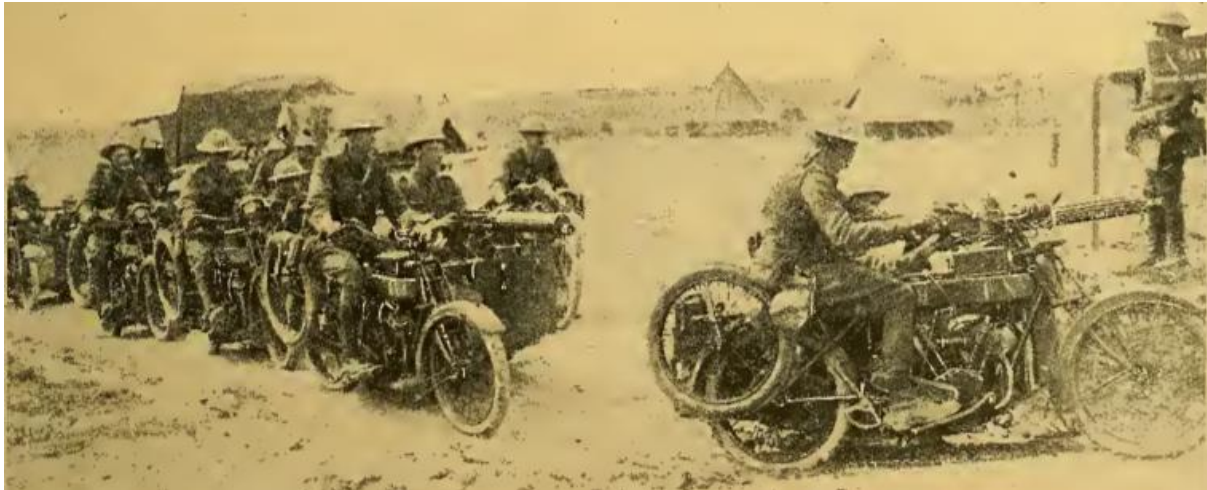
"MESSRS AJ STEVENS and CO, of Wolverhampton, have obtained a great reputation for their three models—the 2¾hp single and the 4hp and 6hp twin—but they have always shown a marked preference for the twin. It will be recalled that the single-cylinder machine ridden by Eric Williams won the Junior TT Race in 1914, yet the firm have never looked upon the single as a permanent feature of their programme and we were not, therefore, surprised to hear that they will, discontinue its manufacture after the present stock of parts is exhausted, and concentrate upon twins. The 2¾hp mount has many admirers who will express disappointment at its disappearance. This decision is in accordance with the belief, which the makers firmly hold, that the twin engine is an infinitely better mechanical proposition, and will undoubtedly supplant the single-cylinder in public favour in time to come..."



AJS decided to drop its popular 2¾hp single to concentrate on its twins.

“A STARTING TANK: A CORRESPONDENT tells us that a friend of his fitted a starting tank to an old machine a year or so ago, but something went wrong, and it exploded. In this case, however, the tank was fitted to the cylinder head, and so, doubtless, became very hot, which probably made all the difference.”

“ON MONDAY LAST AN IMPORTANT Order was issued by the Press Bureau to the following effect: ‘The Minister of Munitions hereby gives notice that, in exercise of the powers conferred upon him by the Defence of the Realm (Consolidation) Act, 1914, the Defence of the Realm (Amendment) No. 2 Act, 1915, the Defence of the Realm (Consolidation) Regulations, 1914, and all other powers thereunto enabling him as from the 15th day of November, he hereby prohibits until further notice any person, firm, or company engaged in the manufacture or repair of any vehicle designed for mechanical transport or traction, or any part of such vehicle, from carrying out in any factory, workshop, or other premises without a permit issued under the authority of the Admiralty, the Army Council, or the Minister of Munitions, any work consisting in the manufacture, assembling, or erection of any new or unused motor, internal combustion engine, designed or adapted for mechanical traction, or of any new or unused motor cycle, motor chassis, motor waggon, or of any tractor or other motor vehicles of any kind propelled by mechanical means.’” With that civilian motor cycle production, already at a low level, ceased for the duration...or not. “When the Minister of Munitions issued his Order at the beginning of last week many manufacturers interpreted it in its blackest manner; but we have good reason to believe that there is a bright side to the Order, and that motor cycle manufacture will not come to a standstill. The Government is not an obstructionist, and the only difference will be that in future it will grant permits for all motor cycles which are manufactured. We have good grounds for stating that the permits will be issued freely.” Within a couple of weeks “a motor cycle near London” (which sounds like Matchless) were granted “a permit from the Minister of Munitions to finish fifty-two partly completed machines” and a sidecar body specialist was told it was unaffected by the order and could carry on regardless. However another manufacturer was refused permission to assemble existing parts for export.



“A motor machine gun battery leaving in answer to a signal. It will be noticed that all the men are equipped with steel helmets.”

THE BOSCH MAGNETO CO, British subsidiary of the German giant, was ordered to close under the Trading with the Enemy Act.

NORTH RIDING COUNTY COUNCIL voted to buy three sidecar outfits, to be based at Stokesley, Malton and Northallerton. The replaced police horses and traps.

NEW BIKES WERE IN SHORT SUPPLY so the trade responded with a three-day show of almost 100 bikes (and lots of cars) at the Agricultural Hall in Islington. Entry cost half a dollar (2/6d if you insist) and at this show every exhibit was for sale. Bikes were checked and issued with ‘certificates of condition’; anything too old or too tired was rejected out of hand. The Blue ‘Un noted: “Naturally, the second-hand motor cycle and car dealers up and down the country are strongly opposed to the second-hand motor show now being held at the Agricultural Hall. They, perhaps, rightly regard their own stocks of second-hand motor cycles as a miniature show in themselves, and, moreover, they go on all the year round...The organisers of the Agricultural Hall Show propose to hold exhibitions of second-hand motor cycles and cars in several different centres throughout the British Isles, viz, Manchester, Birmingham, Bristol, Glasgow, Edinburgh, and Dublin.” Half the vehicles on show were sold. On the last day the remaining 92 bikes went under the hammer; 40 found new homes. The organisers were confident enough to book the venue for another sale. Meanwhile, dealers were still advertising 1917 models of, among others, BSA, Calthorpe, Coventry Eagle, Enfield, New Hudson, Norton, and Rover.



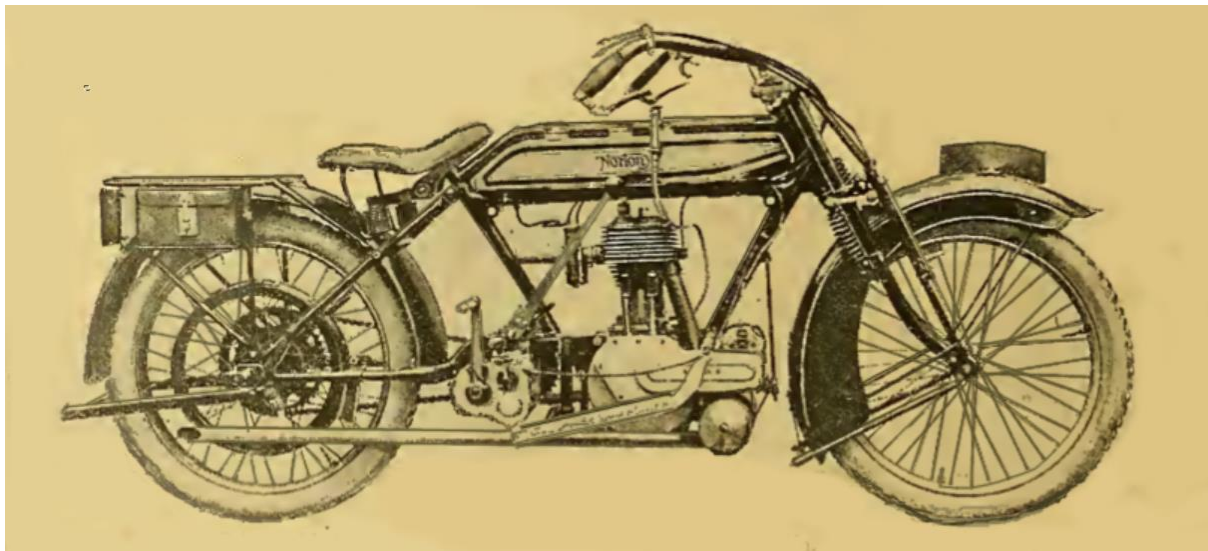
“Joy

riding in the land of the pharaohs. There are not many sidecars in Egypt, but they are apparently being used to good purpose. The illustration shows a member of the RFC and a Gippo ‘flapper’ aboard a P&M.”

AN AMERICAN CORRESPONDENT reported that petrol was in plentiful supply in the Land of the Free at less than half the British price. Even small-town garages had “automatic measuring pumps supplied from tanks underground. Air pumps are fitted in garages for blowing up the tyres, worked by motor engine.” He concluded: “I have not seen many motor cycles here. The fact that cars are so cheap is probably the reason. The native loves comfort, and is not, in my opinion, such a sport as a Briton.”

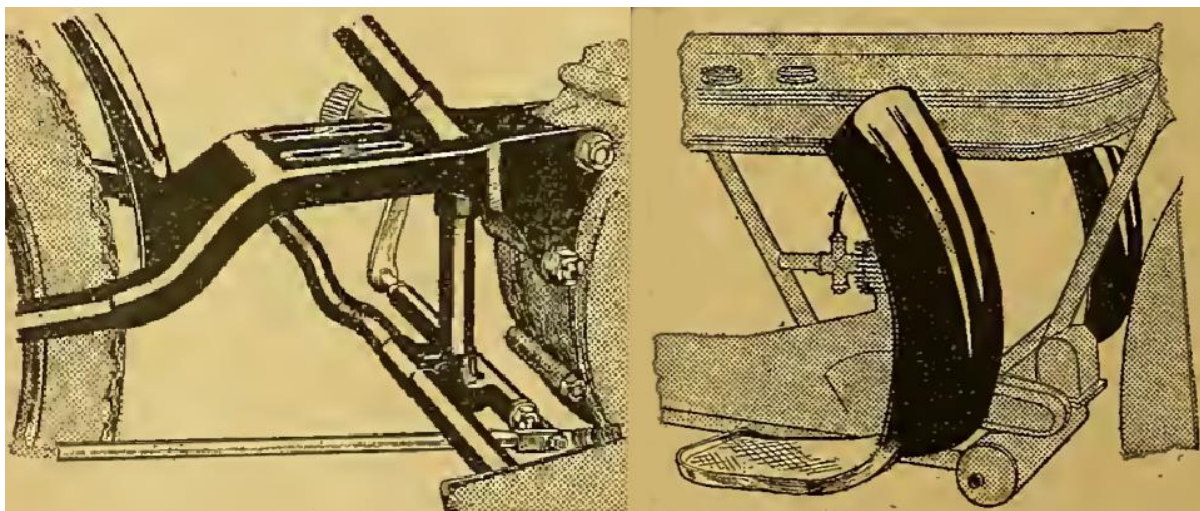
A DEAF ENTHUSIAST HAD to resort to the law, with the support of the ACU, to force his county council to issue him with a licence. *The Motor Cycle* pointed out that “it has been proved over and over again that a deaf motorist is not a danger on our roads—in fact many expert motorists of to-day are deaf...It is on record that in the year 1903 a licence was granted to a man who was blind, so that no physical defect, under the present regulations, debars a man from holding a licence to drive a motor vehicle.”

“TO THE HOME READER motor cycling in the Colonies conjures up visions of wild wastes of sand and rock; devoid of any kind of road, perilous crossings of rivers in flood, or deep dried-up water courses, and adventures with wild animals, these ideas being derived chiefly from accounts of exciting cross-country journeys as recounted in our columns from time to time...we frequently hear complaints from Overseas readers of the unsuitability of English standard models. The chief defects are want of ground clearance



“The new 4hp (633cc) Colonial Model Norton, showing engine ground clearance of 6in. The straight exhaust pipe is a feature of Norton motor cycles.”

and insufficient or unsuitable mudguarding...the latest product of Norton Motors, Aston, Birmingham...is quite a special design, and not merely a standard model altered in detail. Its outstanding feature is exceptional ground clearance; there are 6¼in to spare below the crank case. This increase, about 2½in more than the standard type, is obtained by a careful rearrangement of the frame tubes and the Norton method of carrying the gear box. A horizontal stamping is cranked up behind the engine, under which the Sturmey-Archer three-speed countershaft gear is bolted, so that no part of it projects below the bottom of the crank case...the tank has been increased in size to accommodate two and a quarter gallons of petrol and over threequarters of a gallon of oil...The engine



“The bottom bracket formation, showing slots allowing gear box to be slid along, also manner of fixing brake rod and pedal. The leg shields fitted to the Colonial Norton are of sensible dimensions and extremely effective.”

is the Norton ‘big four’, 82x120mm bore and stroke, giving 633cc...The back mudguard is 7in wide and set 2½in away from the tyre tread, with no restriction at the forks; it is given additional strength by a central liner...The front guard is also wide and set the same distance from the tyre, the bottom edge being kept at crank case level, 6¼in from the ground. Additional leg shields can be fitted if desired...The chains are protected by a strong, serviceable metal cover, but it is intended to market a completely enclosing type of chain case...Handle-bar clutch control, B&B carburetter with starting jet, and a chain-driven CAV magneto complete a very fine model...Although of special design for Overseas, we see no particular reason why it should not become popular in this country, as its deviations from standard practice in no way decrease the usual Norton good points of speed and power, coupled with reliability in every way. It undoubtedly fills the bill for the needs of the average Colonial rider, and the makers look forward to a considerable demand when business resumes its normal course after the war.”



“The sporting Model Norton sidecar, showing spacious locker in rear.” Norton could also supply the Big 4 with a ‘de luxe’ sidecar.

“AMONG THE VARIOUS OFFERS in exchange for motor cycles and combinations, to be found in the last two issues of *The Motor Cycle*, are: Thoroughbred horse—‘sure Derby winner’, 20hp motor car, freehold cottage in Devonshire, diamonds, jewellery, motor launch, a solid oak music stand, roll-top desk, 7in lathe, watches, pleasure trap, typewriter, flute, piccolo, pianola, banjo, violin, two drum tambourines, a new accordion, and a sugar boiler.” And on the far side of the pond, the US magazine *Motor Cycling* also carried an ad seeking a trade: “For three-speed twin, will trade complete motion picture outfit, with gas machines, Powers’s electric, with rheostat; taken in on mortgage. Good as new; worth 250 dollars. Packed in travelling trunk.”

“THE DUTCH MOTOR CYCLE CLUB has received the patronage of the Queen of Holland, and will now be known as the Royal Dutch Motor Cycle Club.”

“ENGINES WITHOUT OIL: An American firm has succeeded in impregnating graphite with metal, thereby combining the self-lubricating properties of the graphite with the tenacity of the metal used. The question arises in the mind as to whether we shall eventually have an oilless engine and bearings.”



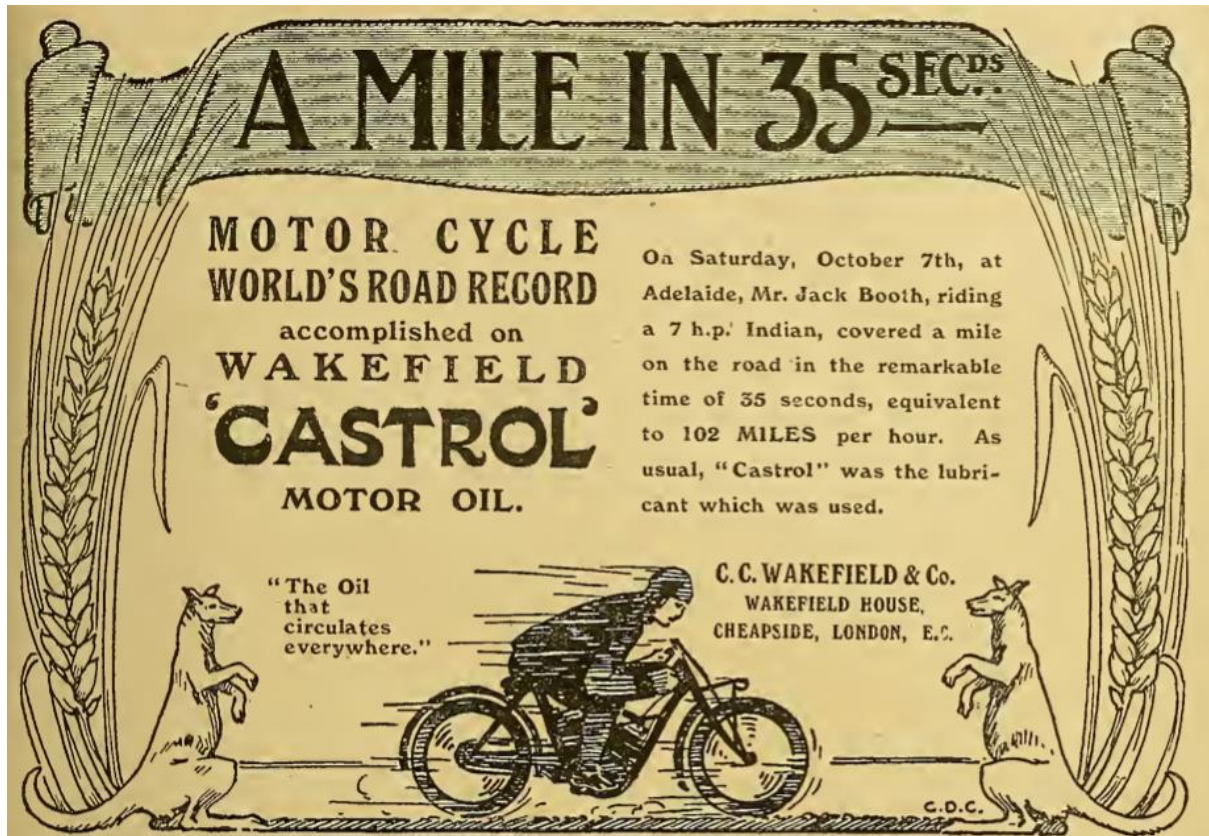
From left: “We have seen machine guri motor cycles, sidecar ambulances, tradesmen’s carriers, and now we have the field kitchenette and ammunition caisson manufactured by the Hendee Co. It has already done excellent service in the field on the Mexican border, we are told. Sgt FE Barker, ASC, MT, formerly with Zenith Motors, off to dinner with a load of eighty-five stones. Of the many uses the motor cycle is put to in the great military camps, not the least appreciated is when it is commandeered as a ‘hack’ to give acquaintances a lift.”

“SIDE CAR MACHINE GUNS FOR CADETS: No doubt the excellent work rendered Overseas by the sidecar machine gun outfits which form the equipment of the Motor Machine Gun Service, has led the authorities to approve the formation of motor machine guns in connection with Cadet Corps. Henceforward the operation of machine guns and their rapid concentration at most favourable points by means of the mobile motor cycle and sidecar will form part of their training, and the youths are looking forward to the latest departure with no small amount of enthusiasm.”

“SIDE CAR MACHINE GUNS ON HOME DEFENCE: In connection with the home defence forces, a Motor Machine Gun Section is to be formed. Offers of sidecars are invited.”

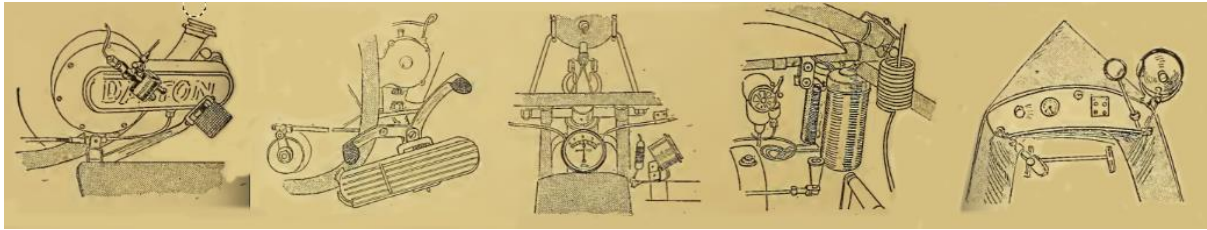
IXION REPORTED: “A DR GRAVELY informs me that when the little end bush of his engine gave out, he made a new one out of a Hun shell fuse, and successfully covered 500 miles on it.”

“WHY,” IXION WONDERED, “IS IT that your brilliant engineer so seldom possesses the necessary imagination to render his work ideal from a user’s standpoint? If he plans a car engine it is usually perfectly accessible when it is lying on the bench, but requires a spanner incorporating eight universal joints and a lazytongs handle when it is installed in the chassis. If he designs a powerful twin he forgets (a) that it will probably be used with a sidecar, and (b) on which side the sidecar will go. As a consequence he mounts such items as the oil and petrol fillers and the carburetter on the sidecar flank. By means of long swan-necked funnels one may succeed in replenishing the tanks, but only a professional contortionist can handle the carburetter details comfortably unless the sidecar is first removed, and some of the best modern sidecars are as good as brazed up solid with the cycle frame.”



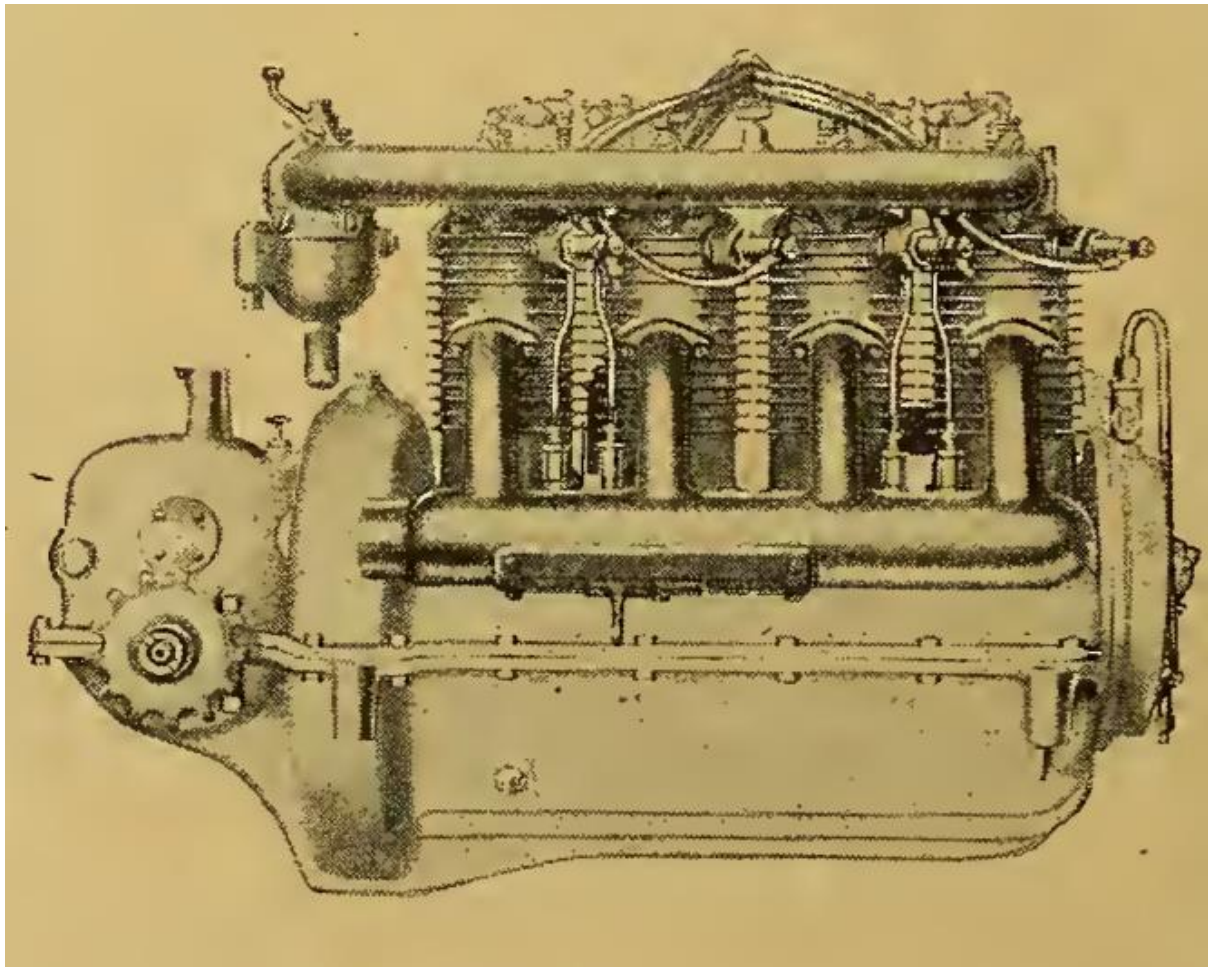
AUSSIE ACE JACK BOOTH RODE his eight-valve Indian over a measured mile stretch of the main Gawler Road, a few miles outside Adelaide, in 35sec to set a world record of 102.8mph.

“THE MOTOR CYCLE SHOW held at the Chicago Coliseum gives a very good indication of the trend of motor cycle design America. Probably the most notable and drastic change in design is the introduction by the Hendee Company of the small flat twin lightweight, which, undoubtedly, anticipates a greater demand in the future for the lighter twins as solo mounts in place of the heavy 7hp twins as heretofore. Although the baby two-stroke has apparently made little headway, some firms are still manufacturing them, so there is evidently a certain demand for these machines, though evidently nothing like so great as that which exists in this country...The three-speed gear, usually placed in the



From the left: "Mechanical oiler and brake pedal on Dayton models. The Emblem three-speed gear is actuated by a rocker pedal on the right footboard. On the Henderson a small Ammeter is fitted on the top tube, set at an angle to facilitate easy reading. Dry battery case on Henderson, made of pressed steel and attached to the seat tube. The dash on the "Flexible" sidecar shown fitted, with dock, switch, lamp, and mirror."

countershaft, is also a feature of practically all 1917 models, while electric lighting outfits are now almost universal on all but the lightweights. In looking through the specifications of the latest models, it is interesting, and at the same time almost amusing, to notice how the horsepower ratings of the engines have gone up, although the capacities remain the same. It is quite common to see what are generally known in this country as 7hp twins rated at 16hp, while 6hp is the common rating for many single-cylinders under 500cc...Enclosed valve springs are becoming standard on most American mounts...Several of the big twins even now require the engine to be removed from the frame before the cylinders can be taken off. In the Excelsior provision is made so that the tank tube can be removed so as to give room for dismantling cylinders. The Henderson power unit is undoubtedly a very neat piece of work, and contains a three-speed gear box situated at the rear end of the crank case, the bottom half of the crank case casting forming the lower half of the gear box."



“The chief alteration in the latest four-cylinder Henderson is the inclusion of a three-speed, sliding dog clutch type gear box incorporated as a unit with the engine. The overhead inlet valve rockers are also much more substantial.”

“WHEN SUMMONED AT BRENTFORD recently for exceeding the speed limit, Mr Rowland Williams stated that he considered it a national scandal that three able-bodied men, excellent material for the Army, should be kept at home to undertake work of this character.”

“WE REGRET TO ANNOUNCE the death of Mr Frederic S Hess, the inventor of the helmet made obligatory by the ACU for the last Tourist Trophy Race in the Isle of Man. This helmet was undoubtedly the means of saving the lives of a number of competitors, and has proved to be as useful in racing as the shrapnel helmet in warfare.”

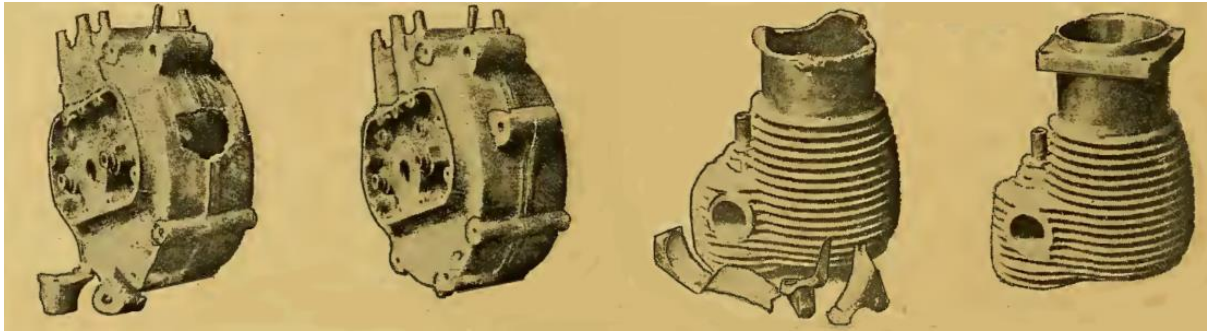
“A MEETING OF MOTOR CYCLE manufacturers was held at the Grand Hotel, Birmingham, at which Mr Humphries, of Humphries and Dawes, makers of the OK motor cycle, proposed, and Mr Downs, of New Imperial Cycles, seconded, and it was carried nem con [unanimously]: ‘That this meeting favours co-operative action by British motor cycle manufacturers, through some organisation from which foreign manufacturers’ influence must be completely absent, with a view to complete co-operation with other British industries and the preservation of the British motor cycle industry in future.’”



“The

sidecar is becoming more and more popular as a general service vehicle. Our illustration shows Mr H Gorringe and family on their Bradbury outfit, which has served them well for a year.”

OXYGEN ACETYLENE WELDING HAD only been around since the turn of the century; with motor cyclespares in short supply it was coming into its own. “We spent a most interesting morning recently watching repairs to motor cycle cylinders, crank cases, and crankshafts by means of the oxy-acetylene welding process, carried out by Messrs Barimar of London WC...Outside the building is a large acetylene generator, while inside are oxygen cylinders. The two gases are mixed and issue in correct proportions through a special torch. The first job we saw involved a flange broken off the base of a cylinder. Only one original corner of the flange was left, and the remaining three pieces were welded on, and also the spigot. Watching the repair through darkened spectacles, one saw the workman with a stick of cast iron in one hand and a torch in the other sealing up the joints of this cylinder casting, filling up the holes, and finally building up the spigot which projects into the crankcase. As soon as the repair is completed, the cylinder is taken into the adjoining workshop, and all roughnesses are carefully ground down, most ingenious appliances being used for this operation. The emery wheel is on a flexible shaft, so that it may be moved about in any position...e saw many examples of broken aluminium crank cases due to a broken” connecting rod smashing its way through the ends or side. When this happens the broken part is neatly welded in position, and, as will be seen in the accompanying photograph, the patch is practically invisible after it has been finally dealt with...A valve had been sent in two pieces so. that the stem might be welded up and made as good as new, and numerous crank cases had also been received in which the main bearing bosses had been cracked and allowed the bearings to come adrift...One of the most interesting repairs shownto us in operation was the welding of a new tooth on to a broken gear wheel...At the present time, when spares are difficult to obtain, this work is of extreme importance, and many motor cyclists who would otherwise scrap broken parts of their machines will be glad to know where they, can be effectually and skilfully repaired.”



From holes in crankcases to smashed barrel flanges, oxy-acetylene welding was being used to restore bikes that would otherwise have been scrapped due to the lack of spares.

“THERE APPEARS TO BE NOTHING in the USA in the journalistic line which occupies the same position as *The Motor Cycle* does in England. The two principal motor cycle papers seem to ignore the private owner, and to devote their energy to fostering the trade, and the trade only, while, curiously enough, they are both introducing pedal cycles into their pages.”

SIEGFRIED BETTMANN REVEALED THAT 560 TRIUMPH employees had joined up; 25 had been killed and 70 been wounded. He promised that those who were able to work would be taken back by the Triumph Co, and if the directors had to sacrifice their salaries and their fees those men would not be allowed to be deficient in anything that was necessary to “uphold them and to enable them to live in relative comfort”.

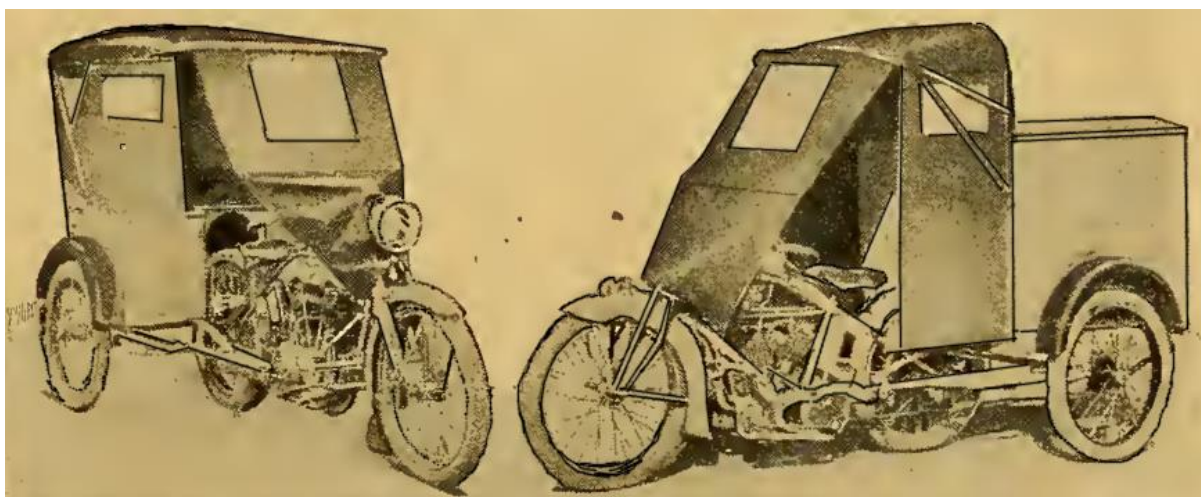
OLIVER GODFREY, WHO WON THE 1911 TT ON AN INDIAN, was killed in action while flying with the RFC. In 1911 Indians came first, second and third; that year Godfrey also won the 70mph handicap race at Brooklands. In 1914 he tied with HR Davies (Sunbeam) in the Senior TT. *The Motor Cycle* described him as “...of a bright and genial disposition...an excellent sportsman in every sense of the word...undoubtedly the finest exponent of the Indian machine in Great Britain”. Godfrey, in partnership with 1912 Senior TT winner Frank Applebee, also founded Godfreys, a high-profile motor cycle dealership in Great Portland Street, London W1. His death clearly didn’t stop the shop touting for trade, witness this ad: “Christmas travelling. Travel by road, and leave the railways free for soldiers on Xmas furlough. It is not only patriotic to do so, but more healthy and economical. GODFREYS can supply you with just the motor cycle or combination to suit you—and can supply from stock.”



Oliver Godfrey and his Indian, just after he won the 1911 TT.

THE MOTOR CYCLE REPORTED: "We are at the present moment riding a two-stroke machine fitted with a throttle-controlled lubricator...of late months we have seen three designs of throttle-controlled lubricators specially designed for two-stroke machines. Two years ago, in dilating upon this subject, we suggested that the throttle-controlled lubricator is surely ideal and perfectly automatic, relieving the rider of all lubrication worries. We went on to state that from these considerations alone it was to be hoped that some discovery would be made that would overcome the objections outlined." Fast forward to 1963: Yamaha won worldwide acclaim at the All Japan Motor Show when it launched 'Autolube' an "automatic lubrication system which completely revolutionized two-stroke engines". Yamaha claimed to have debuted this technology at the 1961 French Grand Prix. Knowledgeable motor cyclists snorted in derision.

BRITAIN IMPORTED 1,192 motor cycles in 1916, compared with 4,531 in 1915 and 2,559 in 1914. Exports were 12,851, 10,927 and 20,877. There were 160,290 motor cycles registered in the UK; 131,805 in England and Wales, 19,147 in Scotland and 9,338 in Ireland (the island of Ireland, of course, this being pre-partition). The motor cycle parc in 1915 was 147,904. Petrol imports rose to 161,814,766 gallons in 1916 from 144,574,891 in 1915.



The American Cygnet Rear Car, which was produced as a 'delivery car' and a 'pleasure car' offered weather protection to the driver and, where relevant, passengers.

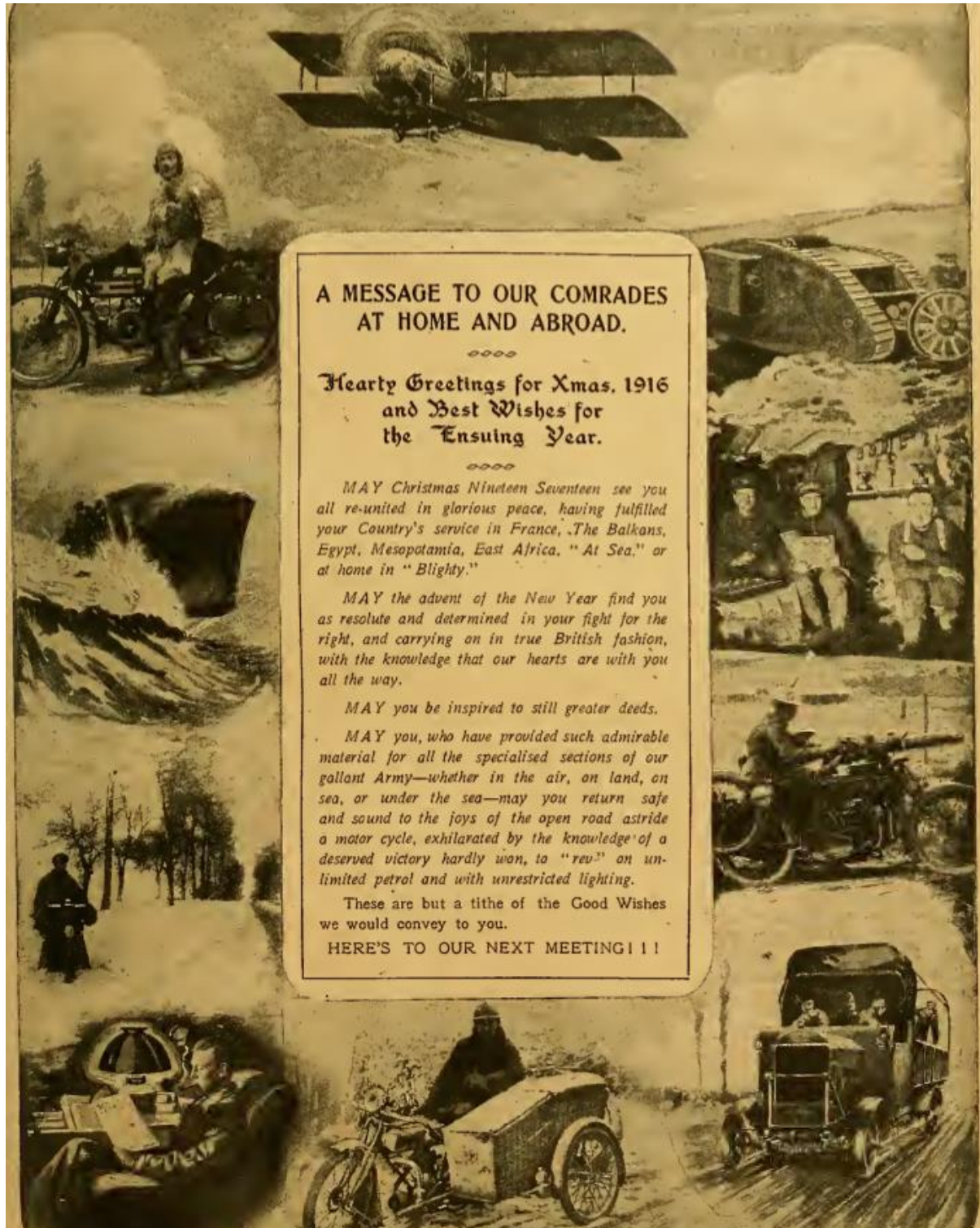
"I MUST NOT GRUMBLE," Ixion, remarked, "for I have had very few punctures during the last two years, but when the spell of luck broke of course I got a really shocking puncture in inky darkness and pouring rain. The tyre, as you will expect to hear, was a brand new 3in with steel studs in the tread, and as stiff and unmanageable as it could be made. There was no divided axle, no handy railway bridge or barn, and my supply of carbide wasn't excessive. There were no tyre levers in the standard kit, nor in the repair outfit. I draped my oilskin neatly over the back wheel to keep the tube as dry as possible, crept into the tent thus improvised, propped my head lamp to throw a fitful glare on the job, and turned the water as low as possible. Wiping my hands dry and clean, I gouged the reluctant cover off the rim at last with the aid of a stumpy screwdriver and two or three stamped spanners; by this time, of course, my hands were wet and gritty, as the whole tail of the machine was drowned in mud. There is only one worse experience in motor cycling, and that is tackling the same job in a blizzard, and the worst of it is that there is no cure for it; it is still a rotten job even if you have a drop-out wheel and a spare tube. Thank goodness, it is far easier than it used to be, for there was a time when tyre solution wouldn't stick unless it was treated delicately, whereas modern solutions dry quickly and stick closer than a dun."

IXION WAS PONDERING DECOKING (or, as the great man put it, "decarbonisation"): Now it is apparently certain that the thumping big V twin can never be decarbonised very simply and quickly unless it is, for example, fitted with a bolted-in top tube to the frame, so that the whole of the top hamper can come away quickly, and leave the cylinders clear to be lifted off. It is easier, but still not really easy, to design a big horizontal twin so that its cylinders whip off smartly. Of course, as the super-efficient engine is developed, the thumping big twin may be eliminated altogether in favour of a 'revving' small twin. If this does not happen, I wonder if the four-cylinder will come into its own? Imagine a four-cylinder, set rather low in rather a deep frame. Fit it with a detachable cylinder cover, and with overhead valves. Add, if you like, a second joint lower down between the monobloc cylinder casting and the crank case. It will be difficult to design a twin of the same cc to equal this for general handiness and accessibility."



This image, from a Dunlop ad, appeared with a poem: "It's a muddy road and a bloody road, And a road that's swept by fire, But we've got to get through with the Orders 'bus, Or we'll raise the CO's ire. So you'll hold at the bend, I know, old girl, You'll stick it and turn not a hair. Just one

more dash! Through one more splash! And we're there, old girl, we're there!"



The usual Christmas jollity was, for obvious reasons, absent and *The Motor Cycle's* Christmas greeting page could hardly have been more warlike. Let this yarn, published earlier in the year, stand in for the traditional lighthearted or adventurous Christmas story. It is whimsical and oh so poignant. Truth be told, it reduced me to tears.

SHORT IS THE BLISSFUL HOUR that comes before the sunrise: yet when life is as full of incident as he found it by Cape Helles an hour may be an eternity. There is a limit for tired nerves, worn

out with sudden alarms and more sudden death on all sides, and it is in that hour full of shadowy mists that all men's souls sail from the peninsula on the wonderful hospital ship that carries them home and back in an hour, leaving them at the dawn with memories to fight for, and courage to see them through.

He lay in a cramped position at the entrance to the best dug-out on the peninsula ; beside any such work in Flanders it would have appeared rather like a bunker on suburban links. Beside him was a new tunic which in the most natural manner he had removed from all that was left of one of his friends the previous night. Its chief merit lay in its low population.

The hospital ship had deposited him on the Portsmouth Road with his Zenith, and looking over his shoulder he was pleased but not surprised to find that 'she' was there too. Hospital ships are very thoughtful. As he turned round towards Weybridge he felt her hand drawing the cigarettes from his pocket, and a minute later a lighted Virginian was pushed between his lips. He raised his right hand in thanks. "Mustn't let her all out," he shouted over his shoulder, "that tyre on the front wheel's got a very weak spot; it'll go sooner or later." Yet when he got close to the station he found that a short 'blind' before the hill could not be avoided. "Shall I?" he shouted, and a tightened grip was enough answer.



They were just picking up well when the tyre went; in a fraction of a second he realised that he had no control over the machine, and fixed the very spot amongst the heather at the side where they should pitch. Yet they seemed to be minutes reaching it. He felt as though he had just stopped everything for a little, while he examined the spot, looking into each yellow flower and noticing every drop of dew. The noise of the burst had been appalling; and yet he seemed quite used to it; vaguely he remembered having heard it once at quite frequent intervals, somewhere out of England, when—ah! yes...he raised himself on a stiff elbow, almost drenched in the dew. Well, anyhow, the first hour's sun would dry that thoroughly; it didn't take long in such a climate...But where was the 'bus?... . Oh! of course, he had been dreaming. But how vivid it had been. "What was that, Speedy?" he shouted. "H.E.," growled a voice behind him. "Double L," he added with a laugh, curling himself up again.

On Brooklands.

It seemed as though he had been driving for hours, every nerve in his body seemed tense: every muscle strained. He knew there was something at stake something big: and somehow he felt he was winning; there was a wonderful rush of wind in his face, yet his eyes were quite unaffected: he couldn't be wearing a helmet, since he felt his hair waved back in the breeze, and his head was cool; he felt somehow as though he had just had a glorious shampoo. That made him laugh. He couldn't somehow stop laughing...it seemed so jolly fine to be winning so easily there was nothing ahead of him on the track! He was simply unbeatable. What if he stopped and lit a cigarette and then went on? He shrieked with laughter at the idea. What a jest it would be!



Somewhere behind him there came a little purring that grew a bit insistent. His confidence seemed to leave him suddenly: both machines were roaring now, but what a splendid cackle! His hands got hot and sticky, and he felt his grip on the bars loosening. Perspiration began to pour from him: then a shadow started crawling up behind him. He could see the machine out of the corner of his eye: it was certainly gaining. With a roar that startled him it overtook and passed him. Well, it was hardly worth while going on, now. He seemed to be drifting just anywhere. Two or three machines passed him. Then suddenly a very small voice right in his ear distinctly said. "Who ran that belt through?"

With a long sigh he rubbed his eyes and sat up. "Whoa...what...?"

"Who ran that belt through?"

"Who did what?"

"Oh, do wake up, you chump: didn't you hear a machine gun?"

"No...well, yes: I suppose I must have: I seem to remember it."

On the Portsmouth Road.

He was leaning on his Zenith just where the road turns at the entrance to Ripley, explaining very carefully to someone that that house over there was the twelve-pound house; referring to the newly painted golden medallions on the great iron gates. He seemed to be surrounded by every motorist he had ever known; he recognised every machine, and every detail on it: dirty knee-grips here; enormous exhausts there; he caught sight of a Brough, and waved his hand and shouted, "Hullo! Ken."

"Harry's comin' along on somethin' rather sweet, isn't he?" said someone; and they all stopped talking and listened to the perfectly running engine.

He stretched lazily and opened his eyes. Ever so far above him the blue sky reached out to infinity.

Straight overhead an aeroplane passed on an early morning reconnaissance. How clearly he saw it, he could even distinguish the exhaust... that engine sounded pretty healthy. With a puzzled look in his eyes he repeated to himself very softly: "Harry's ...comin' along on somethin' rather sweet, isn't he?" Who could have said that just now ? Good lor', he must have been dreaming.

He roused himself and scrambled to his feet.

Crossing over he kicked Speeby affectionately "Come and help with the breakfast," he said.

"Comin', sir," said Speeby, sitting up.

He burst into a shriek of laughter at the "Sir." A slow smile dawned over Speeby's face. "I dreamt I was on a ship," he explained.

.....

As usual, let's end this review of a year with a selection of period adverts. The prosaic lists of bikes and offers of riding gear and accessories must have read like something from another world to the lads at the front...

THE STRAIGHT DEALING FIRM JONES GARAGE

1, The Broadway,
MUSWELL HILL, N

Sole N. London Agent for the YALE MOTOR CYCLE.
Special Agent for the ARIEL.
Also Agent for NEW IMPERIAL, the SUN, VINDEC,
the RADO, the OVERSEAS, INDIAN, ENFIELD, etc.

NEW MACHINES in Stock.

5-6 h.p. ARIEL Combinations.
3½ h.p. ARIEL
2-stroke RADO, 2-stroke.
INDIANS, shortly.

SECOND-HAND.

1913 B.S.A., 3½ h.p., 2-sp. A splendid bike	£22 10
1914 3-sp. countershaft ARIEL and Sidecar	£55 0
1911 DOUGLAS, single-speed, new tyres...	£15 0
1915 ALLDAYS ALLON, 2-stroke, 2 weeks old, fitted with Corbin-Brown speedo- meter, done 200 miles	£30 0
1913 TRUMP-J.A.P., 3½ h.p., 2-sp., fine order	£28 10
1912 3-speed TRIUMPH, in fine order	£32 10
3½ h.p. BROWN and coachbuilt Sidecar	£25 0
6 h.p. J.A.P. in a No. 5 Chater frame, mag., spring forks	£15 0
1912 DUD Cycle Car, 8 h.p. J.A.P. engine	£35 0
1914 6 h.p. ZENITH, T.T. model, Swan torpedo Sidecar, disc wheel, all spares; bargain	£56 0

EASY PAYMENTS—1 down and 10% on the balance;
not 5% or 2½%. The reason is, I advertise my
machines at **ABSOLUTE LOWEST CASH
PRICE**. Not put some on, then advertise Easy
Payments, 2½% extra.

THIS IS A STRAIGHT-DEALING FIRM.
All Machines Sold with a Guarantee.

STURMEY-ARCHER HUBS REPAIRED
by Experienced Workman.
I can supply practically anything in the **ACCESSORY**
line at the Right Price.

SECOND-HAND BARGAINS.

The following are in stock ready for trial
and inspection. All machines thoroughly
overhauled and guaranteed.

1913 B.S.A., 3½ h.p., 2-speed	£35 0
1915 PREMIER, 3½ h.p., 3-sp. military mod.	£48 0
1912 PREMIER, 3½ h.p., 3 speeds and clutch	£27 0
1910 BRADBURY, 4 h.p., T.T.	£17 0
1914 INDIAN, 2-speed, Combination	£50 0
1913 MOTOCOCCHIE, 3½ h.p., 2-speed	£33 10
1914 INDIAN, 7-9 h.p., 2-speed, T.T.	£45 0
1910 N.S.U., 3 h.p., 2-speed gear	£15 0
1912 REX, 5-6 h.p., 2-speed, Combination	£35 0
1913 VELOCETTE, 2½ h.p., 2-stroke, lady's model	£22 10
1911 NEW IMPERIAL-J.A.P., 2½ h.p., 2-sp.	£25 0
1914 TRIUMPH, 4 h.p., 3 speeds and clutch, Gloria Sidecar	£47 10
1912 TRIUMPH, 3½ h.p., T.T., Pallipson pallet	£27 10
1915 INDIAN, 5 h.p., 3 speeds, and Sidecar	£65 0
1913 DOUGLAS, 2½ h.p., 2-sp., and clutch	£33 10
1914 TRIUMPH, 4 h.p., 3-sp., and clutch	£42 10
1915 RUDGE Multi, 3½ h.p., 1. of Man T.T.	£50 0
1915 JAMES, 4½ h.p., 3-speed, Combination	£62 0
1915 ROVER, 3½ h.p., 3-sp. countershaft	£52 10

CYCLE CARS AND LIGHT CARS.

1913 SWIFT, 7-9 h.p., 3 speeds and reverse	£80 0
1914 MORGAN Grand Prix No. 1	£90 0
1915 MORGAN, 10-12 h.p., 4-speed, G.P. No. 2	£130 0
1915 BABY PEUGEOT de Luxe model	£135 0
1915 G.W.K. (new) Standard model	£178 10
1916 MORGAN (new) de Luxe model	£117 12

ELCE

15-16, BISHOPSGATE AVE.,
CAMOMILE STREET, LONDON, E.C.

'Grams': "Eldemaree, London." 'Phone: Avenue 55 18.

Irvine Smith COVERALLS.



do keep the rain out
and the body thoroughly dry
under all weather conditions
besides being smart in
appearance and comfortable
in wear. Satisfaction guar-
anteed or money refunded.

Booklet and Patterns
post free — Write NOW.

From

35/-

My booklet contains illustrations
of the various styles together with
easy measurement form. You
will be interested to have a copy

IRVINE SMITH,
Buttershaw, Bradford.

HALF-PRICE SALE BURBERRYS

1915 Top-coats and Suits

"Economy is to buy necessities when
opportunity offers to buy cheaply."

MOTOR CYCLE BURBERRYS in Gabardine,
lined Tweed. Usually 3 gns., **SALE PRICE 45/-.**

RUSITOR MOTORING COATS. Usually 8 gns.,
SALE PRICE 84/-.

URBITOR TOWN TOP-COATS.
Usually 4 gns., **SALE PRICE 42/-.**

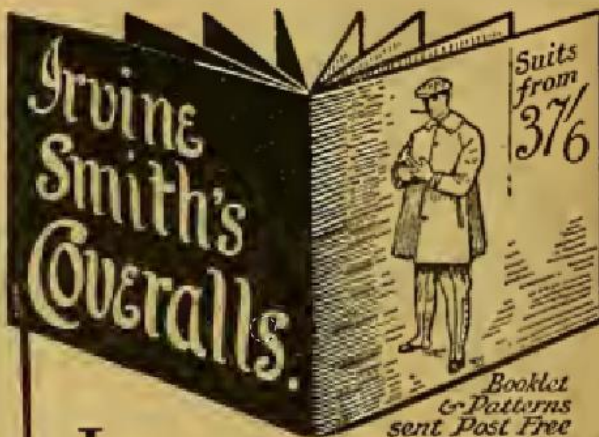
WALKING BURBERRYS in
Gabardine, lined wool. Usually
3 gns., **SALE PRICE 45/-.**

LOUNGE SUITS. All sizes, in
various cloths. Usually 6 gns.,
SALE PRICE 63/-.

SPORTING SUITS—Coat and
knicker-breeches—various styles,
in Gabardine or Tweed. Usually
5 gns., **SALE PRICE 52s. 6d.**

Full SALE LIST Post Free.

BURBERRYS Haymarket S.W. LONDON



I NTO every Coverall for Motor Cyclists I
make, goes not only my 20 years' experience
as a tailor and cutter, but my long experience
of actual riding. Just how much this means to
you in the matter of an efficient really rain-
proof, tailor-made coverall, is explained in my
post free Booklet, with patterns.

SEND NOW FOR A COPY.

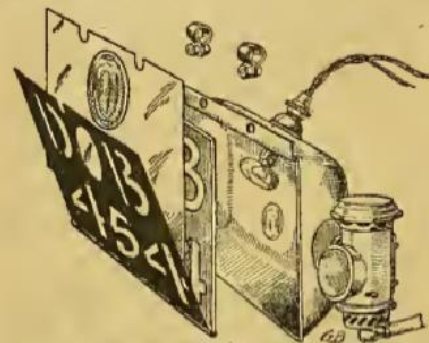
IRVINE SMITH, BUTTERSHAW, BRADFORD.

TRANSPARENT NUMBER PLATES.

(WOOD'S PATENT.)

A LONG FELT WANT SUPPLIED.

The law says that it is necessary to clearly show
identification marks and registration numbers, otherwise
you are liable to a fine.



The advantages of Wood's patent translucent Num-
ber Plates are as follow: They comply with the law,
are always clear and legible, never require repainting,
cannot possibly get out of order or broken as there is
no glass in the construction. Are fitted with a Ruby
rear sign. Sent ready for fitting, which can be done
in a few seconds.

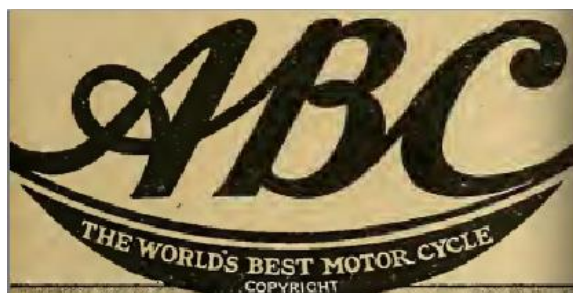
Price for use with own Electric Generator,
Battery, or Accumulator, 10/6.

Price for use with rider's own lamps, 7/6.

Plates complete will be sent by return on receipt of
registration numbers, accompanied with postal order.

**W. O. WOOD, Millgate, Market Place,
STOCKPORT.**

Telephone: 282, Stockport.



**3,000 Motor Cyclists
are waiting for the A.B.C.**

They know that

"The Best Motor Cycle in the World"

(Copyright)

is worth waiting for, that it is a machine of perfect design and construction, that it gives them a far better and a far more efficient road service than any other make of motor cycle.

Have your name and address registered on our list for catalogue and full particulars as soon as we are in a position to make delivery.

A.B.C. MOTORS, Ltd., Walton-on-Thames.

'Phone: Walton-on-Thames, 120.

'Grams: "Revs, Walton-on-Thames."

H.A.C.

The "GRADO" MULTI-PULLEY

with Free Engine.



Starts your machine like a car!

Takes your machine and side-car up hills impossible without!

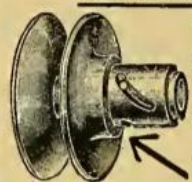
Gets you safely through thickest traffic!

Ensures safety over greasiest roads!

In fact, it turns work and danger into a pleasure!

Just half a turn of the handle on top tube changes from top gear to free engine!

Fitted in two hours to Triumph, Bradbury, B.S.A., Rudge, Precision, T.D.C., Rex, Singer, Premier, etc.



Beware of Imitations and Infringements

Price - - £3 : 3 : 0

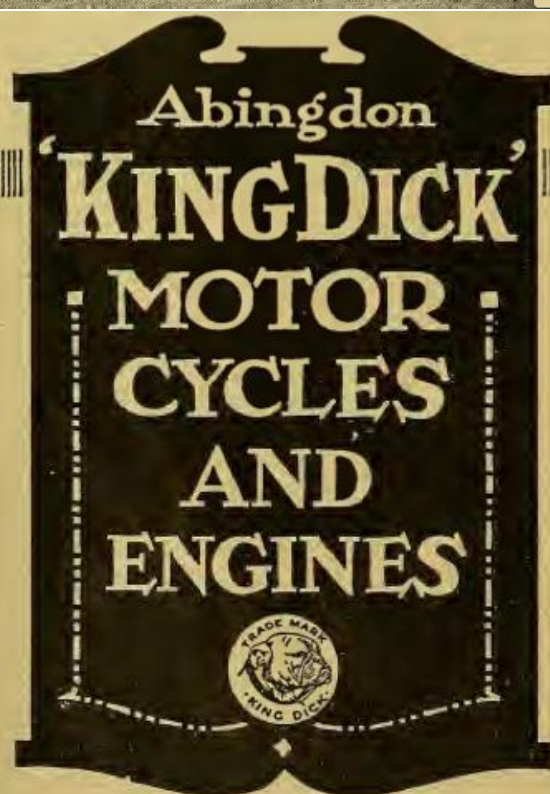
for Engines up to 6 h.p. 10/- extra to suit Engines with crank bosses, like J.A.P., old Rex, etc.

Lightweight Model £2 10 0

Here is the curved slot which ensures the belt never slipping on the lowest gear.

Delivery from Stock. Write us to-day for further details. See "Motor Cycling," 23rd Feb.

The Grado Manufacturing Co., Pershore St., Birmingham.



ORDERS executed as Government requirements permit.

ABINGDON ECCO LTD.
MAKERS OF THE FAMOUS KING DICK SPANNERS
TYSELEY, BIRMINGHAM.

London Representative: G. H. Smith, 12, Mortimer Street, W.

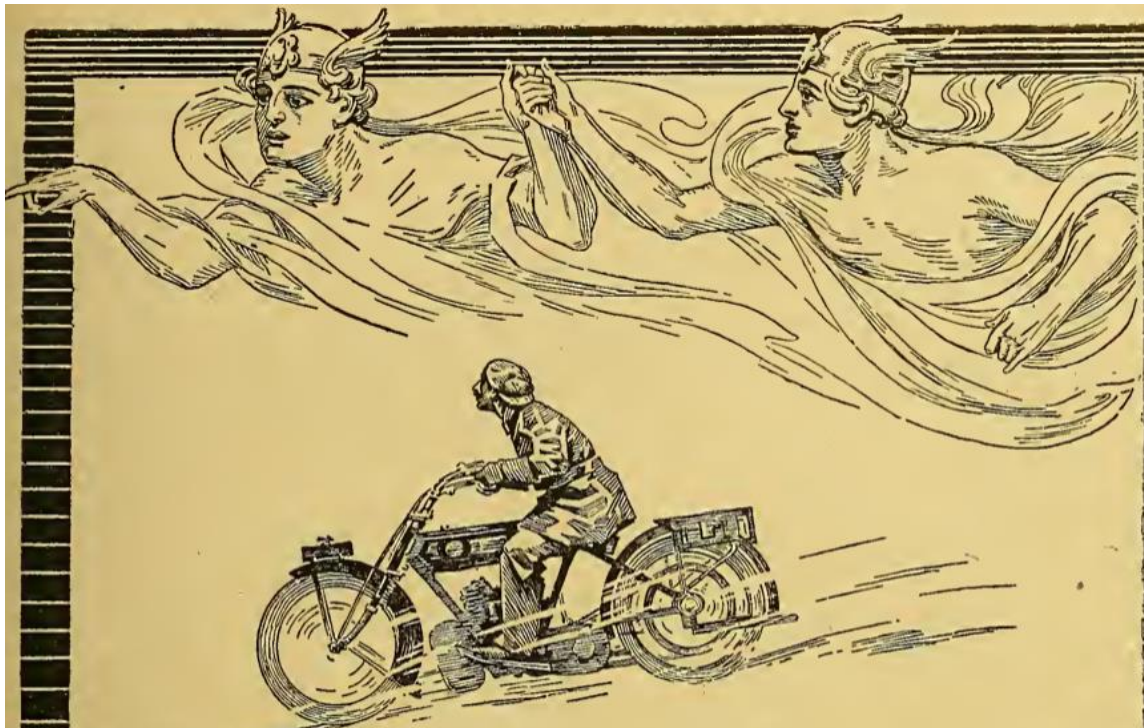


1916^{ES} THE MODELS WITH MOST IMPROVEMENTS

These models are extremely scarce and in keenest demand. The most perfect modern motor cycle productions.

	H.P.		£	s
WE ARE	6	Enfield Combination ..	89	5
ABLE TO	6	Enfield Colonial Comb'n	89	15
OFFER A	8	Enfield Combination ..	91	7
FEW OF	6	Enfield, dynamo, Com'n	105	0
THESE	3	Enfield, Mods. 140 & 150	52	10
PERFECTED	2½	Enfield 2-strokes	40	0
MODELS. IF	5	Indian, Model B, 3-sp. ..	70	0
YOU WANT	7	Indian, Model G, 3-sp. ..	75	0
THE BEST	7	Indian, Model F	£83 and £90	
AND LATEST	7	Indian, Model C	78	0
YOU MUST		All Indian Sidecars in Stock.		
HAVE A 1916	2½	Calthorpe, 2-str., 2-sp. ..	32	11
MODEL, AND	2½	Calthorpe-Jap, 2-speed ..	37	16
WE CAN	4	Calthorpe-Jap Comb'n ..	70	7
GIVE	2½	Excelsior, 2-stroke	30	16
PROMPT	2½	Excelsior, 2-str., 2-sp. ..	44	2
DELIVERY	2	O.K. Junior, 2-speed ..	33	1 6
TO ANY	2	O.K. Junior, 2-stroke ..	25	10
PART.	2	" " 2-sp., M.A.G.	42	10
WRITE NOW	4	B.S.A., Model H	64	0
FOR OUR	4	B.S.A., Model K	62	0
BIG TO-	2	Levis Popular	32	0
DAY'S LIST.	2	Levis de Luxe, 2-sp., cb'n	47	10
	2	Diamond, 2-str., 2-sp. ..	38	17
	2	Diamond, 2-stroke	31	10
		All Douglas Models in stock whenever possible.		
		Enquiries solicited.		
		If you seek superior value not to be got elsewhere, study our collection of		

SNIPS NORTH BRITAINS BEST BARGAINS



Safety and Speed go with Bates Tyres

They not only mean economy in petrol, but they stand the toughest of tests, because they are the products of a British firm whose chief aim has been to place upon the market the best motor cycle tyre that could be made. Moreover, the increased output has made it possible, in spite of higher cost of materials, to reduce prices.

WARNING!



It has come to our notice that Valves stamped with the letters "B.S.A.," and stated to be suitable for B.S.A. Motor Bicycles, are being offered for sale.

The unwarranted use of the letters B.S.A. in any form is an infringement of our trade mark rights, and proceedings will be instituted against offenders.

Genuine B.S.A. Valves are stamped on the head with three Piled Rifles and letters B.S.A. (as illustrated).

FROM THE
SCRAP
HEAP



TO THE
CAR

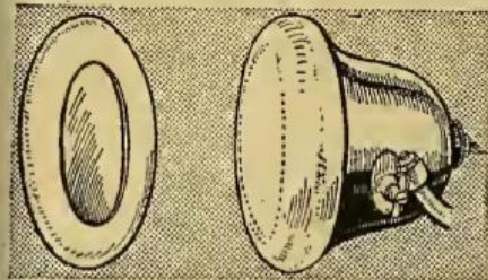
**SEND US YOUR
DAMAGED TYRES**
WE ARE UNBEATABLE.

Price List on Application.

TOM CANN, LTD.,
Tyre Repairers—**LEICESTER.**
Phone 2073 (2 lines). Grams: "Tom Cann, Leicester."

The SURRIDGE Holdtite Lamp Dimmer

**Best—Strongest—Neatest.
No Unsightly Creases.**



Made in Transparent Rubber to meet requirements of Schedule 1, giving perfect light to required regulations. A firm grip on the lamp. Waterproof.

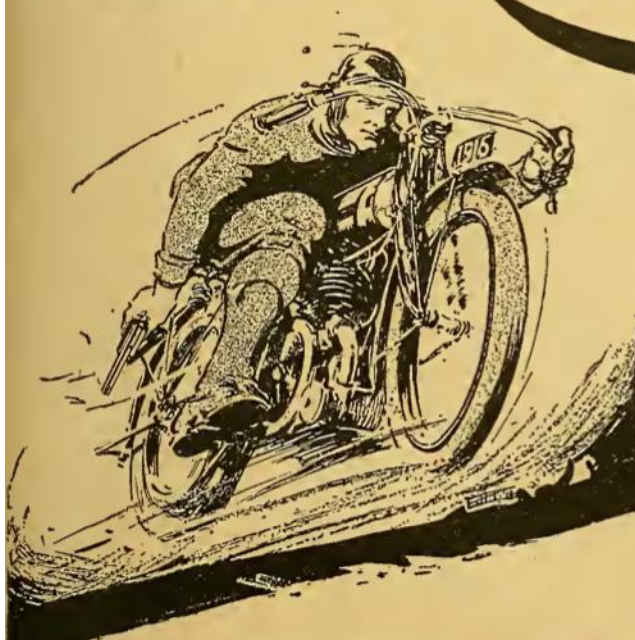
Size..	4in.	5in.	5½in.	6in.	7in.	8in.
Each	2/-	2/3	2/6	2/9	3/-	3/3.

Also made to meet requirements for Schedule 2, in Opaque Rubber and the necessary holes, prices as above.

Post Free or from your Agent.

Made for Electric Lamps or to any required size on particulars sent, and with Lamps having a shade such as Motor Cycle Lamps.

First in the Field
and **FOREMOST**
ever Since.



C.A.V. Magnetos

BRITISH THROUGHOUT

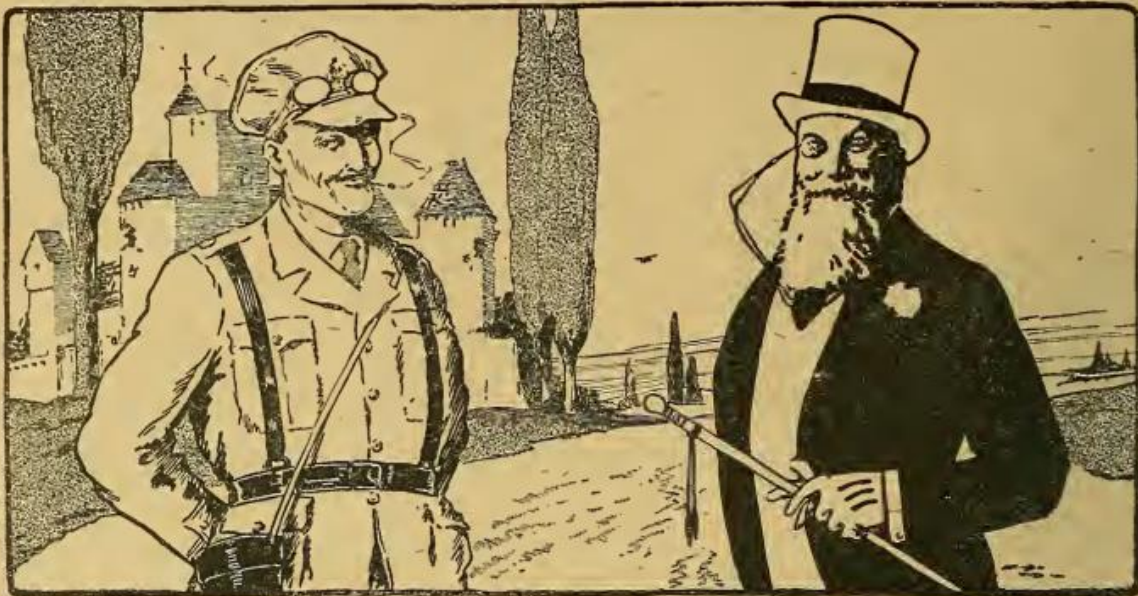
Since the outbreak of war this magneto has played an active part on all fronts—by far the greater number of machines in use by our Despatch riders are C.A.V. equipped.

Members of



Write for Art Folder "F"
and Spare Parts List.

C.A. Vandervell & Co., Ltd.,
Electrical Engineers, ACTON, LONDON.



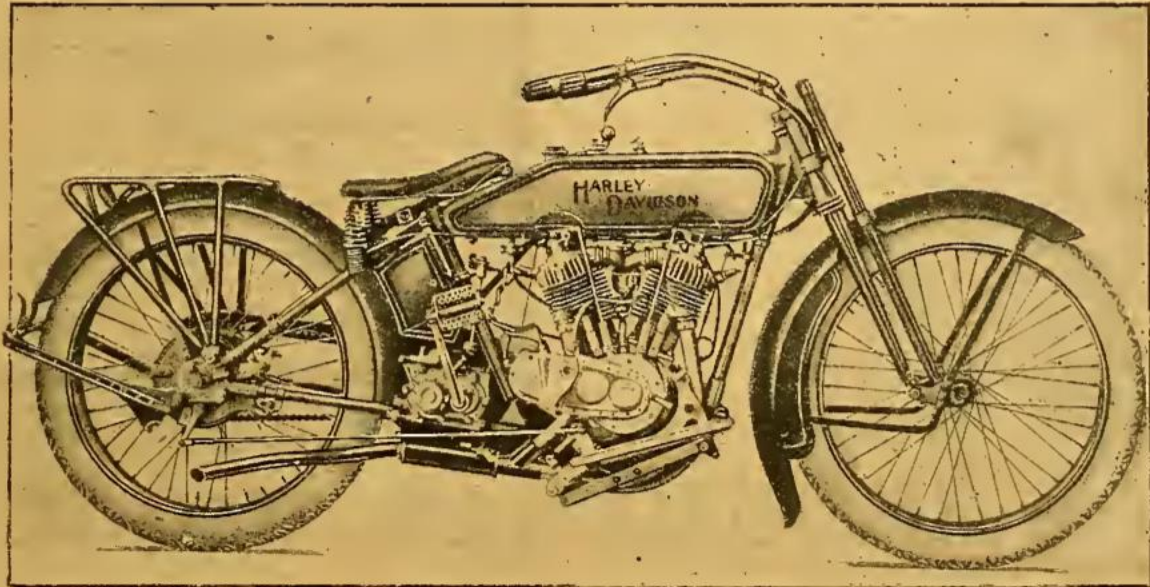
Officer : You can see the spot I refer to about 200 yards down the road just round the bend. We hadn't a dispatch rider available and the wires were down. It was absolutely essential that somebody should get through with instructions for the battery in action two miles further on. The road was in a terrible state, and as the beggars were searching it with shells at intervals of three minutes, I had to let the old 'bus' go all out. I put it down entirely to the fact that she was shod with Dunlop non-skids that she held a bend like that at such a pace. The tyres stand up to their work splendidly too.

Dunlop : That's most interesting, and only confirms the evidence I am gradually collecting that my patent rubber-studded motor cycle cover is considered *the* thing out here. Much obliged.

Extract from a letter of a motor-cyclist at the front : "We have several 2½ h.p. machines ; two were fitted with - - - -s and the others with Dunlops. The - - - - tyres are worn out and have been replaced by Dunlops. The other Dunlops are still running."

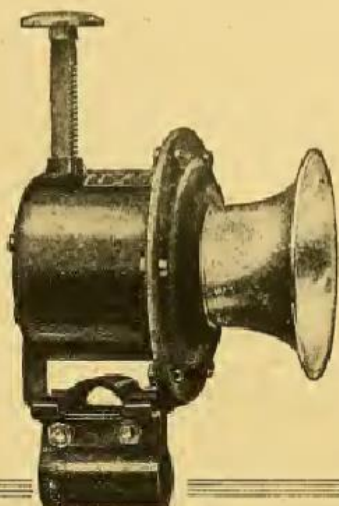
THE DUNLOP RUBBER CO., LD.,
 Founders of the Pneumatic Tyre Industry,

1917



“THE MOTORCYCLE MAGNIFICENT.”

The 1917 7-9 h.p. twin-cylinder engine is the most wonderful power unit ever built into a motorcycle. With the same capacity as heretofore, it now develops over 16 actual horse-power.



Clears the Way !

One press on the plunger does it. They move just as if the fire engine were threatening their safety. The Stewart Warning Signal is no compromise. It's a lusty, emphatic, not-to-be-denied order to clear the way. It penetrates the understanding of the most stubborn carman. It keeps children out of harm's way.

PATENT TRIPLE WINDSCREEN

WITH the side wings closed, the passenger rides in complete enjoyment and security from draughts and dust. A touch allows the screen to swing open out of the way of the alighting passenger. Adjustable to any angle, the screen is very easy to fit, and suits almost every make of car. The side wings can be detached.

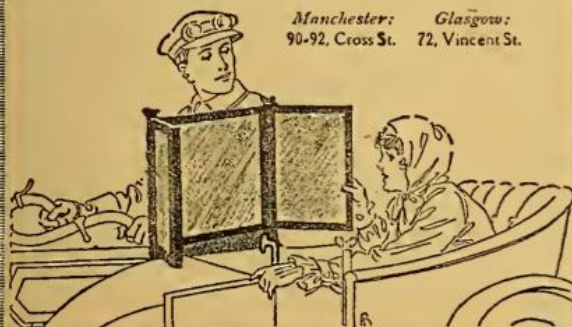
In Polished Walnut with Nickel Fittings:

Price complete with Side Wings	£3 0 0
Price of Single Screen	£2 2 0

Dunhills LTD.

359-361, EUSTON ROAD, LONDON, N.W.
42-43, LOMBARD STREET E.C.

Manchester: 90-92, Cross St. Glasgow: 72, Vincent St.



Indian

Motocycles

DISTINGUISHED
FAST
and
SILENT



As surely as the John Bull Tyres are just as good, just as honest, so also is the

JOHN BULL DEEP-DRIVE BELT.

We believe this to be the most efficient, the most lavishly-made rubber and canvas power-transmitter it is possible to buy, and—riders say it is!

With the John Bull you get 13% to 33% extra driving surface—you have a belt which, because of the unique construction and position of the core, ensures great flexibility—a belt in which the outer rubber is specially suited to the work of power-transmitting, and so tough that its gripping qualities are quite exceptional.

To-day you are studying economy; then specify the John Bull—"the belt with the longer life."

**LEICESTER RUBBER Co., Ltd.,
LEICESTER.**





The LANCER MOTOR CYCLISTS' SUIT.

Thoroughly Water-proof Coat, double-breasted, with storm cuffs and waist belt of same material, two large X pockets at sides, deep collar, extra sewing at all points. Made from untearable twill only. Colour, olive brown. Overalls are seamless trouser fronts spring fasteners at sides, inverted pleats to allow ease in putting on. A first-class medium weight suit.

45/-

Chest and inside leg measure only required.

OILSKINS FOR MOTOR CYCLISTS.

In brown or green shades. Thoroughly seasoned. D.B. coat, 36in. long, velvet collar, tab at throat, half-lined oilskin. Overall leggings, spat fronts, spring fitting at sides. 21/-

Chest and inside leg measures only required.

WASHING SUITS.

In duck material. Very strong. Unlined, tab at collar, double-breasted, buttoning close to neck. Strap cuffs. Overall leggings buttoning at sides. PRICE 10/6.



LADIES' OILSKIN COATS. (Unlined.)

In green, tan, or black, fly front, velvet collar, two X pockets, tab to collar, wind cuffs.

PRICE 25/-

Ladies' Machines.

IN view of the increasing interest ladies are taking in the pastime, and in order that our lady readers may as readily as possible get into touch with those offering machines specially designed for them, we have instituted a special heading for advertisements relating to LADIES' MACHINES. See page 31 of this issue.

ADVERTISEMENTS for this column are accepted at the usual rate, viz.: first 12 words or less 1/6, and 3d. for every two words after. Each paragraph is charged separately, and name and address must be counted. "Copy" should be posted so as to reach us not later than first post on Friday mornings, and be addressed to "THE MOTOR CYCLE," 20, TUDOR STREET, LONDON, E.C.





Levis
—the master
Two-stroke

Particulars of our improved 1916 models will be sent on request.

Watch The "Levis"

THE "LEVIS" set the fashion in Two-strokes. It was the first successful air-cooled Two-stroke motor cycle put on the market. It has had hosts of imitators, but it still maintains its lead in every respect.

Why ?

The first "Levis" built was the outcome of our own knowledge, experience, and experiment. We imitated none—we originated. We produced a new type of motor cycle and speedily proved its worth. The history of the "LEVIS" is a story of remarkable and continuous success.

And it is not our policy to stand still. We are leaders—not followers. We have introduced many innovations, and we have more to come. These will be announced when circumstances permit, and meanwhile our advice to all riders or intending riders of Two-strokes is "Watch the 'LEVIS.'"

Butterfields, Ltd., Stechford, Birmingham.

London Agents: Car & Motor Sundries, 175, Shaftesbury Avenue.



L.M.C. with Sidecar Delivery Van.

L.M.C. THE BEST IS L.M.C.
REAL ECONOMY.

12,000 Miles in 12 months—NO REPAIRS.

Mr. Thomson, of Milnathort, reports: "Machine working every day for over a year, pulling sidecar delivery van with 2½ cwt. of goods in it. Runs over 1,000 miles every month. Am well pleased. Engine never had any repairs."

For Art Catalogue and delivery dates apply:

Any Rudge-Whitworth Depot (Sole Agents)

or Makers:

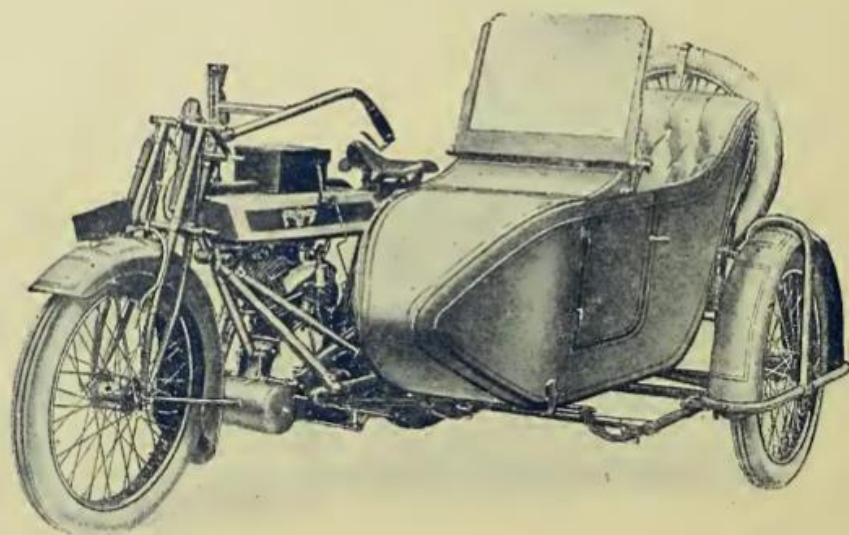
The Lloyd Motor Engineering Co., Ltd.,

L.M.C.

**132, Monument Road,
Birmingham.**

L.M.C.

Matchless



MATCHLESS 8 B/2 COMBINATION.

Powerful, Reliable, Silent, and Distinctive.

The Combination you will
Select After the War.

NEW HUDSON

SERVICEABILITY & SATISFACTION

are combined in the highest degree in the NEW HUDSON by reason of the accuracy, thoroughness, and expert supervision which govern the manufacture of its parts, the construction of the complete machine, and finally its tests. Efficiency and Reliability unquestioned, its appearance compels admiration—the satisfaction and pleasure of ownership is without comparison.

THE NEW HUDSON LIGHTWEIGHT

2-Stroke. 2-Speed.

A practical combination of Utility, Convenience, and Dependability—Substantial and Convincing in appearance. It is simplicity itself, and its control delightfully easy, attractive in appearance and comfortable in use.

MODEL D. £42.
Model C. £38.

The Countershaft Gear Box is a feature of all NEW HUDSON Models.

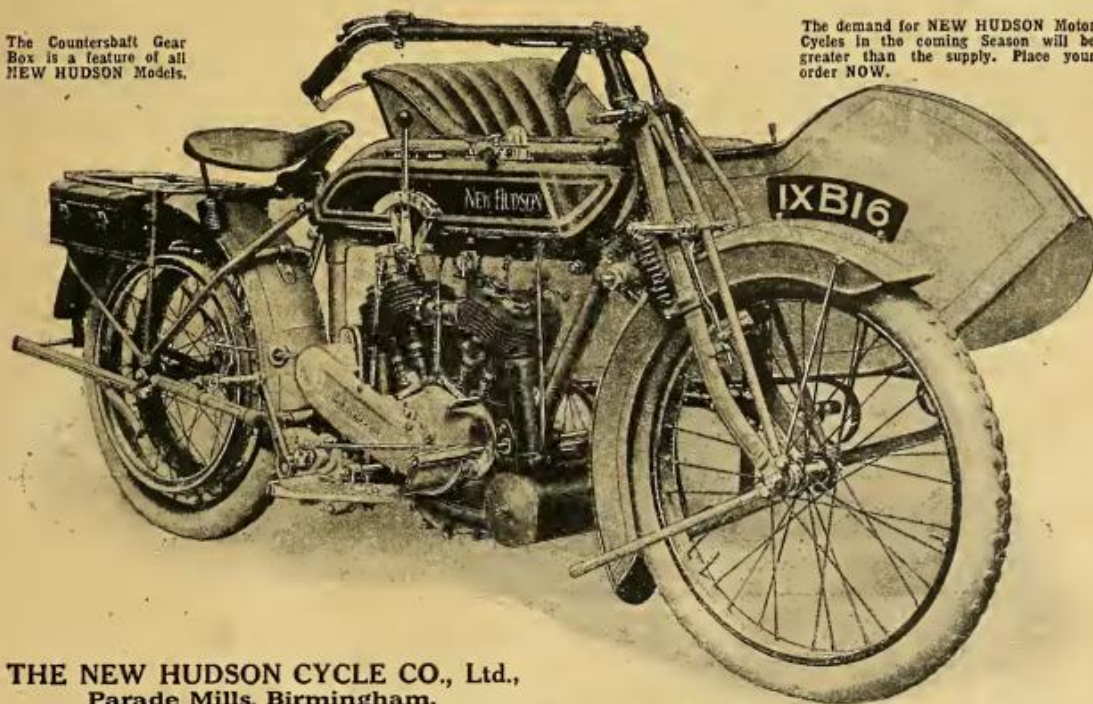
THE NEW HUDSON "BIG SIX"

Passenger Outfit. 3-Speeds.

Represents the highest degree of luxurious equipment, affording unexcelled comfort and satisfaction to those to whom economical motoring for two, coupled with sure dependability, is the one consideration.

MODEL IXB £92 8.
Solo Model IXA £75 12.

The demand for NEW HUDSON Motor Cycles in the coming Season will be greater than the supply. Place your order NOW.



THE NEW HUDSON CYCLE CO., Ltd.,
Parade Mills, Birmingham.
LONDON .. 43-45, Gray's Inn Road.

TRANSPARENT NUMBER PLATES

(WOOD'S PATENT.)

A LONG FELT WANT SUPPLIED.

The law says that it is necessary to clearly show identification marks and registration numbers, otherwise you are liable to a fine.



The advantages of Wood's patent translucent Number Plates are as follow: They comply with the law, are always clear and legible, never require repainting, cannot possibly get out of order or broken as there is no glass in the construction.

Are fitted with a Ruby rear sign. Sent ready for fitting, which can be done in a few seconds. Price for fitting to any existing lamps complete, **7/6**

Price as above, with Electric Bulb and Holder complete, **10/6**

Plates complete will be sent by return on receipt of registration numbers accompanied with postal order.
W. O. WOOD, Miligate, Market Place, STOCKPORT.

Norton

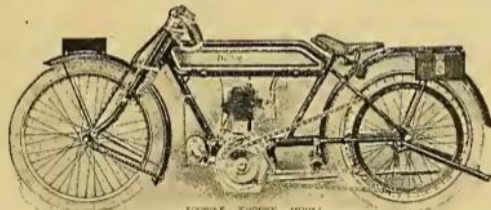
Ideal for Present Conditions.

YOU

cannot do better than select a Norton, whether you require a machine for solo-riding or as a passenger vehicle.

The T.T. Model illustrated has a small engine—only $3\frac{1}{2}$ h.p. 490 c.c.—(which means Economy) yet it forms an ideal combination if used with our light model sidecar.

Remember also this machine holds the sidecar record for Brooklands Hill, the 50 miles Championship of Ireland, and many other honours.



T.T. MODEL

Write for Illustrated Catalogue.
NORTON MOTORS, LIMITED,
Sampson Road North, Birmingham.
London: Bartlett & Co., 74, Gt. Portland Street.

Buyers! Be Guided

in your choice of a machine by the motives which should influence every patriot at this troubled period of our history.

STUDY ECONOMY
and save money.

**AVOID BUYING
IMPORTED GOODS**

and keep the money you spend in your own country.

**BUY A NORTON
IT'S BRITISH**

P & M
THE PERFECTED MOTORCYCLE

Can you tell the difference
between a
1912 and 1913 P. & M. ?

Although you may have followed motor cycling closely for many years, the probability is that you could not. The first P. & M., built in 1900, embodied certain new principles. The P. & M. of to-day embodies precisely the same cardinal features. The design was right from the start, and it is only in details that improvements have been possible.

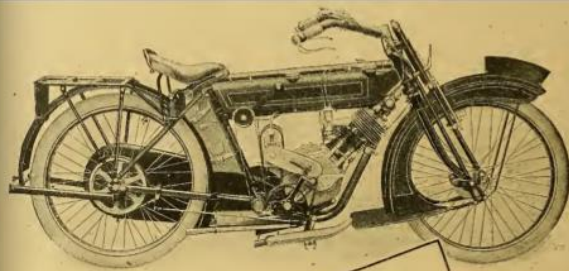
You may have noticed on other machines that gears in a certain position, a particular type of transmission, or a particular form of starter, is boomed to such an extent that the unhappy purchaser is persuaded that that special feature will supersede all others. The following season the manufacturer will have discarded the design altogether, and the buyer realises the effect of this when he wants to sell his machine. It is, therefore, easy to understand the high prices which obtain for second-hand P. & M. machines.

PHELON & MOORE, LTD.
CLECKHEATON, YORKS.
4, PERCY STREET, W.



P & M
35 H.P. MODEL

P & M
THE PERFECTED MOTORCYCLE



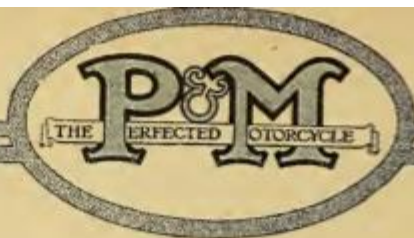
CLASSIFICATION CERTIFICATE.

CLASS "A"

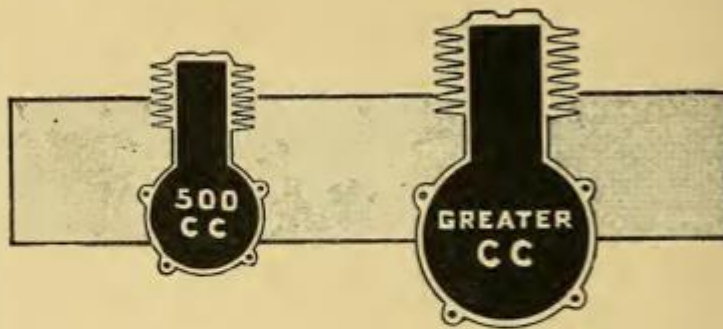
Passed Fit for General Service in 1914.
Fitter than ever to-day.

PHELON & MOORE, LTD.
CLECKHEATON, YORKS. & 4, PERCY STREET, W.

P & M
THE PERFECTED MOTORCYCLE



SIZE AND EFFICIENCY



THE manufacturers of the P. & M. have not succumbed to the temptation to increase the cylinder capacity.

They came to the conclusion that 500 c.c. was sufficient for a single-cylinder machine.

The result is that the P. & M. is just as satisfactory for solo or sidecar work as larger single-cylinder machines — and infinitely more economical.

For example, 100 miles per gallon of petrol is not uncommon on the latest P. & M. models, and 90 miles per gallon can be obtained without special tuning-up or effort.

PHELON & MOORE, LTD.,
CLECKHEATON, YORKS.
4, PERCY STREET, W.

H. 10000

THE RESTRICTED SUPPLY OF PAPER.

How readers of *The Motor Cycle* can assist in effecting the necessary economy.

IN view of the proposed restriction by the Government of the supply of paper, readers of "The Motor Cycle" can render valuable assistance to the Publishers by making a point of always purchasing their copy from the same place, or, better still, by giving a definite order to a newsagent for the regular supply of the journal each week. If this plan is adopted generally a considerable economy of paper will result, for newsagents will be better able to gauge their requirements, and will be left with fewer unsold copies, which are, of course, wasted.

Kindly fill in this form, cut out and hand to your newsagent.

You can't
drive a
knife
through
the tread.



THE STELASTIC TYRE

IS ABSOLUTELY CUT-PROOF
AND
PRACTICALLY PUNCTURE-PROOF.

A wonderful combination of spiral steel "meshes" of pure rubber working in perfect harmony.

Stelastik Tyres are the only Tyres holding the R.A.C. Certificate for 5,000 miles, on all four tyres, without cut or puncture.

And for these 5,000 miles the Stelastics carried a two-ton Daimler.

THE NEW CHOCK BEAD

PREVENTS ROLLING and is a wonderful improvement on other makes.

GET IT AT TAYLORS

Specialists in Motor Clothing

for Despatch Riders, Munition Workers
Red Cross Work.

RACING HELMETS.

Tan leather with ear
rolls.

Lined twill . . . 4/9
Lined fleece . . 5/9



THE THURDPROOF MOTOR CYCLE SUIT.



There is no value offered to-day to equal this Suit.

Jacket and Trousers complete made from extra strong dark fawn twill, double texture, with guaranteed rubber proofing.

Double-breasted Jacket, 36in. long, storm collar, two side pockets, adjustable elastic inner cuffs.

Overalls with apron to protect body, well cut and fitting, with vanup and spring fasteners.

Chest and inside leg seam measures only required.

PRICE.

Complete . . . 38/6

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DIVIDED SKIRTS



Awarded Gold Medal, London
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**THE ONLY PATENT DIVIDED SKIRT DESIGNED
FOR HYGIENIC AND SCIENTIFIC REASONS.**

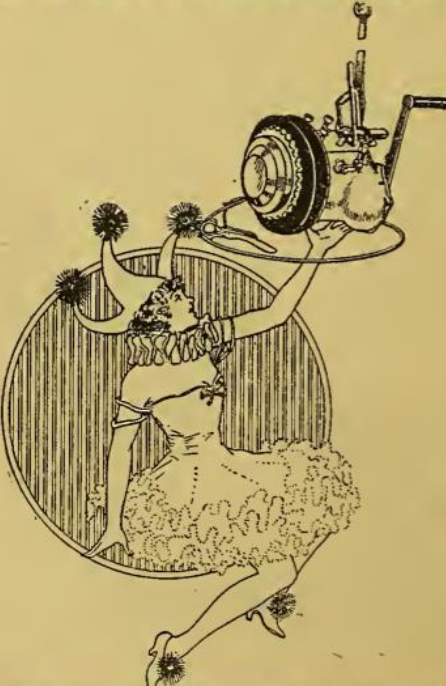
Gives perfect freedom of movement, and there is no likelihood of
its catching in the transmission or being burnt by the engine.
Graceful and elegant and feminine white walking.

— MONEY RETURNED IF NOT SATISFIED. —

Prices :	Skirt from -	£1 11 6	Costume from	£3 13 6
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Full particulars and patterns from

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STURMEY ARCHER

COUNTERSHAFT GEAR

The
Very
Last
Word
in
Gears.

After the war there will be no other:
Ask the boys at the front, who are
using it to-day?

**STURMEY-ARCHER GEARS
LIMITED, - NOTTINGHAM.**

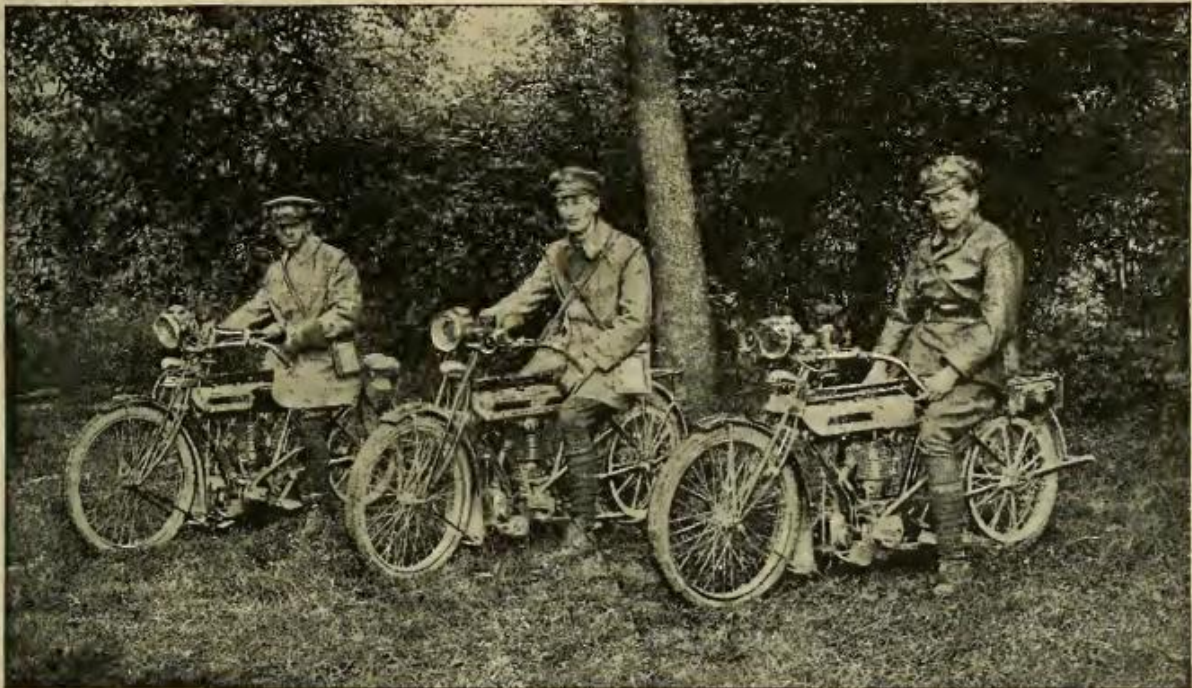
Lance-Cpl. H. G. Smith, Amm. Sub.Park, B.E.F., writes :

"17/1/16.

"I am enclosing a photograph which may prove of interest to you. The three machines arrived in France on Sept. 25th, 1914, and since that date have been continually running on Despatch work, over the rough roads of Northern France, without ever having been to a repair depot.

"All three are still running in excellent condition, and I have never once been held up on the road except for belts and tyres.

"I have become so impressed with the strength, power, and absolute reliability of the Triumph, that I have felt compelled to write you these few lines in appreciation."



TRIUMPH CYCLE CO., LTD., COVENTRY.

TRIUMPH

Velocette
A REAL MOTORCYCLE IN MINIATURE
F.W.W.

We ask your kind forbearance on our inability to supply for the present on account of being fully engaged on **WAR WORK.**

VELOCE Ltd., Fleet St., Birmingham.



**WOLF
MOTORS**

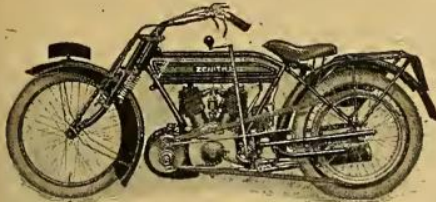
The WULFRUNA ENGINEERING COMPANY, LIMITED, WOLVERHAMPTON.

53, Tulketh Crescent, Ashton-on-Ribble, Preston.

TESTIMONY TO THE WONDERFUL "WOLF."

The Wulfruna Engineering Co., Ltd., Wolverhampton.

Dear Sirs,—Just a word to let you know that I am very pleased with my machine. I have done on an average 250 miles per week. It is the best machine I have had in seven years' riding. Yours truly, F. DEWHURST.



A "Clutch and Countershaft" type, with Kick Starter, Positive Locking Clutch, longest Belt Drive, and the Gradua Gear.

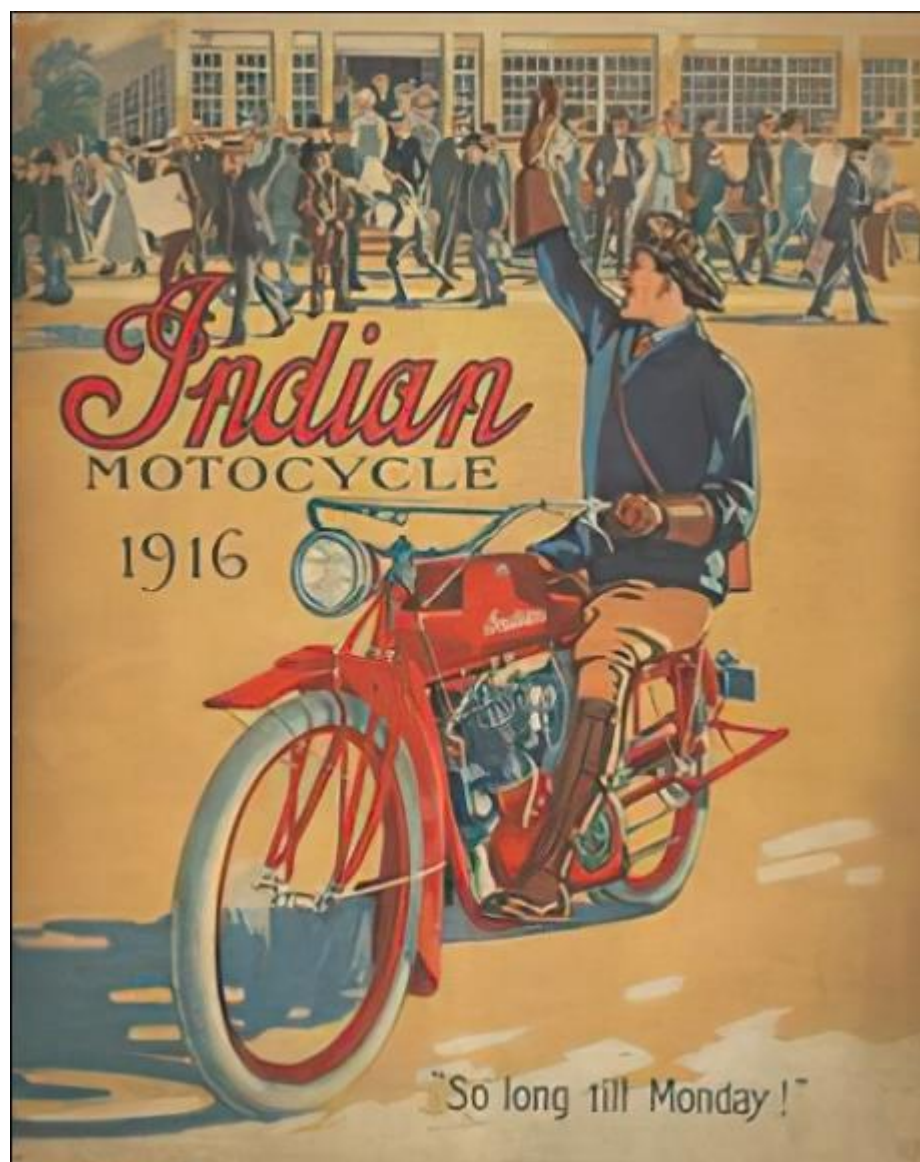
ZENITH



Models from 3½ to 8 h.p.
Catalogue with pleasure.
ZENITH MOTORS, Ltd.,
HAMPTON COURT, ENG.

The
Motor Cycle
that in peace time
MADE RINGS ROUND
all its opponents, in all
classes of contest—speed,
endurance, convenience,
and so on—is still giving
satisfaction in all forms
of active service, in all
parts of the world where
motor cycles are used.
Is yours a
ZENITH?

And here's an Indian ad and a 'vacation guide' cover from the US, which had yet to sign up for The Great War...



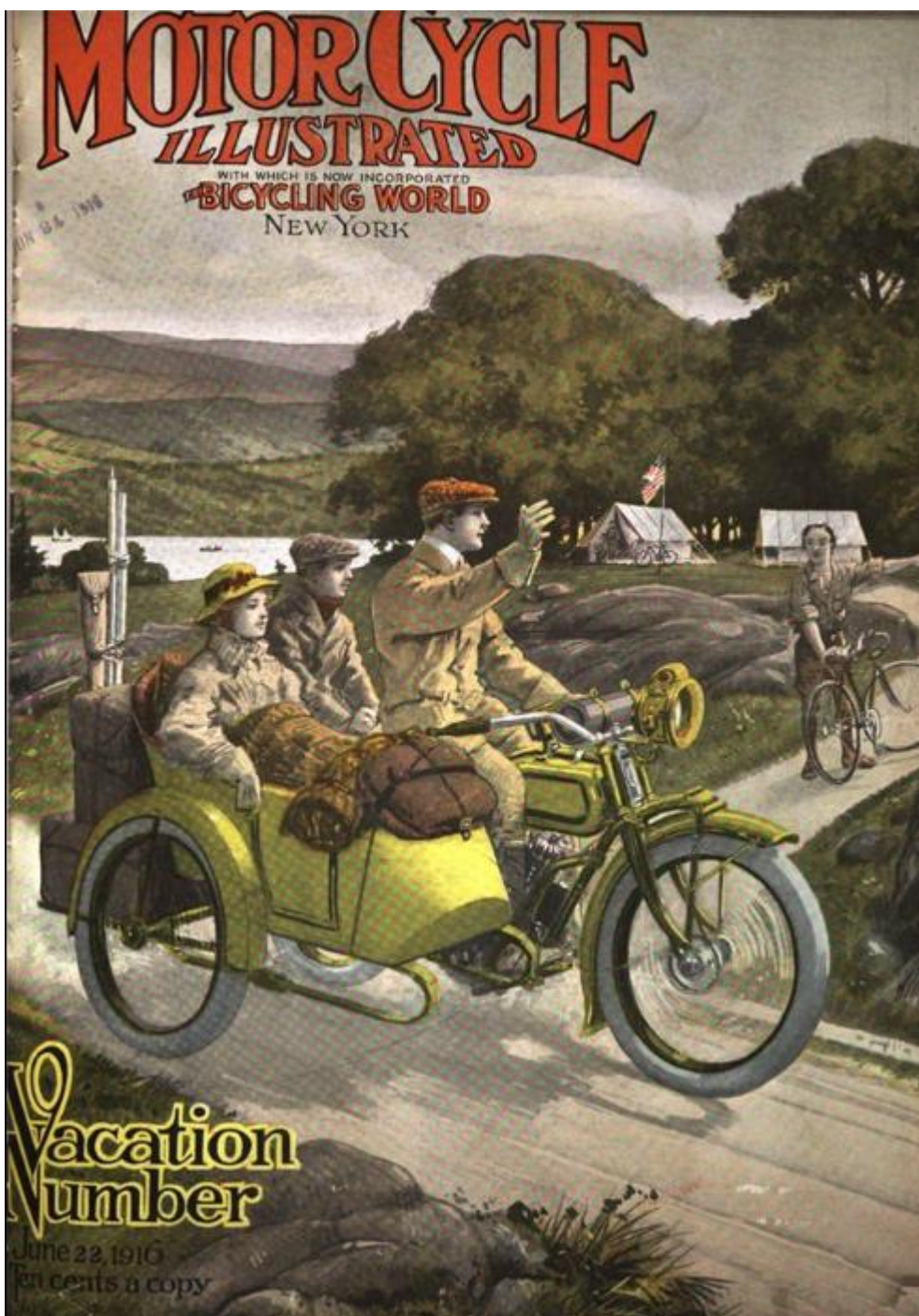
MOTOR CYCLE ILLUSTRATED

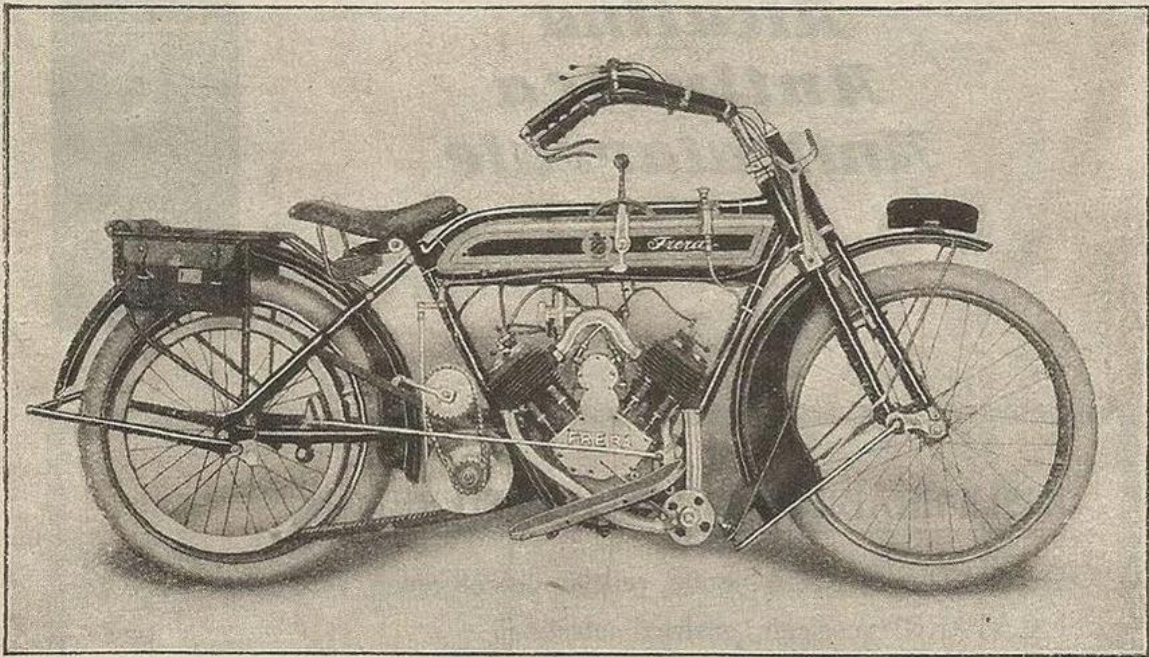
WITH WHICH IS NOW INCORPORATED
THE BICYCLING WORLD
NEW YORK

JUN 24 1916

Vacation
Number

June 22, 1916
Ten cents a copy





Modelli 1916 {

a 2 cilindri: 6-8 HP. -	con Débrayage e Cambio 3 velocità a "train balladeur",
a 1 cilindro: 3-4 HP. -	" " " " " "
a 1 cilindro: 2½ HP. -	con Débrayage alla puleggia del Motore.

Le Motociclette **FRERA** nelle loro variate applicazioni per la nostra Guerra

FRERA - 8-10 HP - 2 Cilindri

con Cambio 3 Velocità e Debrayage
Trasmissioni interamente a catena.



Moto-Mitragliatori appiedati
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Moto-Mitragliatrice in azione
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FUOCO CONTRO AEREO.



Carrello Porta arma
MATERIALE E PERSONALE.



Carrello Ausiliario
MATERIALE E PERSONALE.



Moto-Mitragliatori in azione
AFFIDAMENTO.

*Fotografie eseguite dalla
Stab. Fotogr. Industriale
Ugo Marzoni - Milano*



**Moto-Mitragliatrici Porta arma
E CARRELLO AUSILIARIO IN MARCIA.**

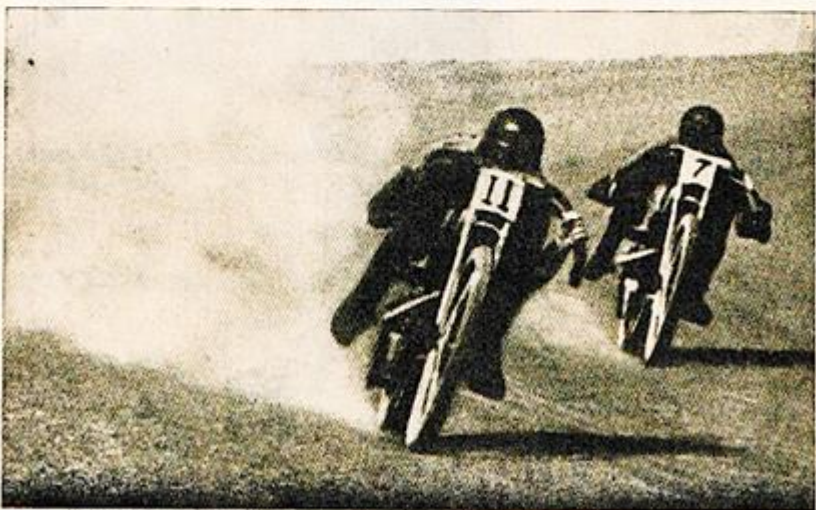
HARLEY-DAVIDSON

MOTOCICLI DI GRAN LUSSO

== DETENTRICE DEL RECORD MONDIALE IN PISTA 1915 E 1916 ==
COPRENDO KM. 482,700 IN ORE 3 45' 36" ALLA MEDIA DI 128 KM. ALL'ORA



La partenza della più grande corsa motociclistica della storia.
Campionato Internazionale 1916 tenuto a Dodge City (Kansas) il 4 luglio.



Due Harley lanciate a vel. così spaventosa gareggiano dopo di avere distanziato di parecchie miglia i concorrenti. La Harley vince il Record del Mond. 1916 arrivando prima e terza, abbassando di 11 minuti il Record 1915 che già deteneva.

Agenzia Generale Italiana: **ORLANDI & LUPORI - LUCCA**

HISTORICAL *Cycle* SECTION

MOTORCYCLING
AND BICYCLING

November 20, 1916

The Side Car That
Tilts and Turns
But doesn't Upset



Undoubtedly—

the real sensation of the Chicago Show was the Flexible Side Car. The riders and dealers who know ideal construction when they see it, spent a large part of their time at the Flexible booth. They realized that the Flexible is more comfortable and will make the motorcycle, as well as itself, keep its efficient "youth" longer than any other side car exhibited or any other in existence.

The Flexible Side Car

is made for commercial use as well as for pleasure. Because of its flexibility, no matter how uneven the road, or how fast the motorcycle and Flexible side car are moving, there can be no strain, and the car always retains its even level. There is plenty of "give" wherever "give" is needed.

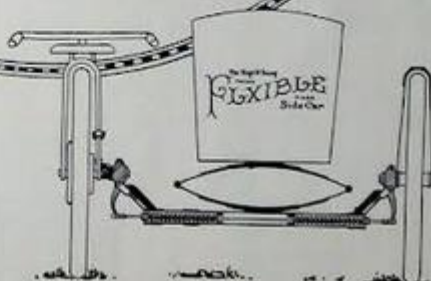
The Flexible is the only side car with a faultless construction. Withal it is the handsomest car on the market. It's light, too, but it holds the roads so remarkably well that no other car can compare with it.

Write for Our Details!



The Flexible Side Car Co.

336 N.Spring Street
Loudonville, Ohio.

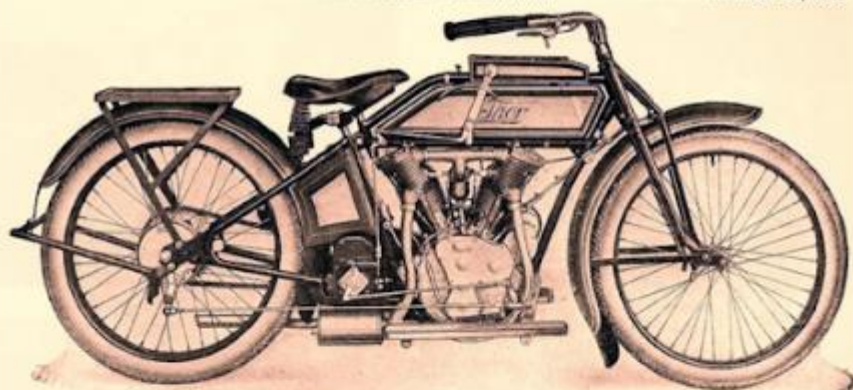


GUARANTEED
MOTORCYCLE
— SUPPLIES —
13TH. ANNUAL
CATALOGUE
— 1916 —



MOTORCYCLE EQUIPMENT CO.

ORGANIZED 1904 HAMMONDSPOET, N. Y. INCORPORATED 1910
PACIFIC COAST BRANCH,-- 3664 SOUTH MAIN ST. LOS ANGELES, CAL.



Not a Pipe Dream But a Reality !



The Thor is so obviously real; so utterly devoid of the frills sometimes used for the basis of mythical qualities; so honestly rugged, that it makes an ideal selling proposition.

The stern realism of its powerful yet simple engine; of the stout frame; of its long and brilliant record; of the powerful financial resources behind it—all of these things should make you decide to sell the

Thor

in 1917. Some splendid territory still is open awaiting the right men. Energetic, progressive yet conservative dealers are the kind we want to aid us in distributing the big blue giants.

If you feel that you can match up with the high standard which we are striving to attain among dealers, get in touch with us at once. Your letter will be appreciated.

New Catalogue Ready for Dealers and Riders

AURORA AUTOMATIC MACHINERY COMPANY

Oldest Motorcycle Manufacturers in the World

General Offices: Thor Bldg., 1307 Michigan Ave., Chicago

Sales Offices and Works: 361 W. Superior St., Chicago

Pacific Coast Branch: 61 Fremont Street, San Francisco

1917

“FOR MAXIMUM EFFICIENCY there is nothing to equal the overhead valve. This type of valve would figure much more frequently on touring machines were it not for the ever-present possibility of a valve head snapping and falling on to the piston with disastrous results...latterly, however, with improved methods of design and a closer study of metallurgy, we have valves of practically unbreakable material, and engines of such superlative efficiency ‘that valve breakages are becoming few and far between. This happy change of conditions, therefore, may reasonably cause designers to pause and consider whether the bias against overhead valves, which has been prevalent hitherto—and not without justification—may gradually disappear.”

“EXCESSIVE ZEAL AT STRATFORD COURT: Recently a photographer of our staff was convicted at the Stratford Court House in London for exceeding the speed limit with a motor cycle and sidecar, the Bench imposing a fine of £5. The defendant asked whether he might go to his home and procure the balance, but apparently the magistrate made no reply, and the police in court promptly put the unfortunate motor cyclist into a cell, where he was kept for an hour and five minutes. During that time the police telephoned to our Tudor Street offices, and a member of the staff at once went to Stratford Court with the money. In view of the fact that the original summons had been served on the defendant at his home address, which was, therefore, verified by the police, and further that he offered to leave either his motor cycle and sidecar (which stood outside the court) or his gold watch in charge of the police till he obtained the money, we need hardly ask whether, in the opinion of our readers, the steps taken were rather too drastic.”

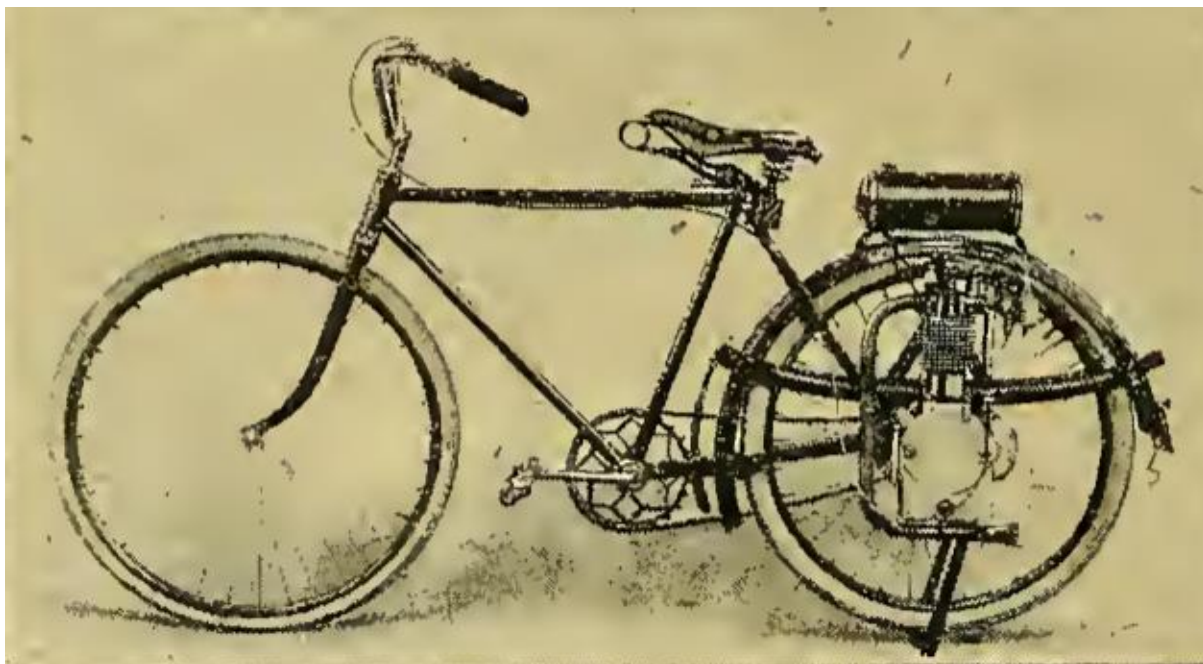
WOMEN WERE RECRUITED as combo chauffeuses; many of them wearing khaki including...trousers! The pre-war controversy over split skirts and unladylike garb was soon forgotten.

THE FIRST ZÜNDAPPS appeared in Germany, powered by 211 and 264cc twostroke engines.

IN THE USA HENDERSON was absorbed by Excelsior. Harley, Indian and Excelsior racers were challenged by Flying Merkel and Cyclone until racing was cancelled by Uncle Sam's belated entry to the war; Harley won a major government order and started slapping on the khaki paint; Cyclone ceased production.

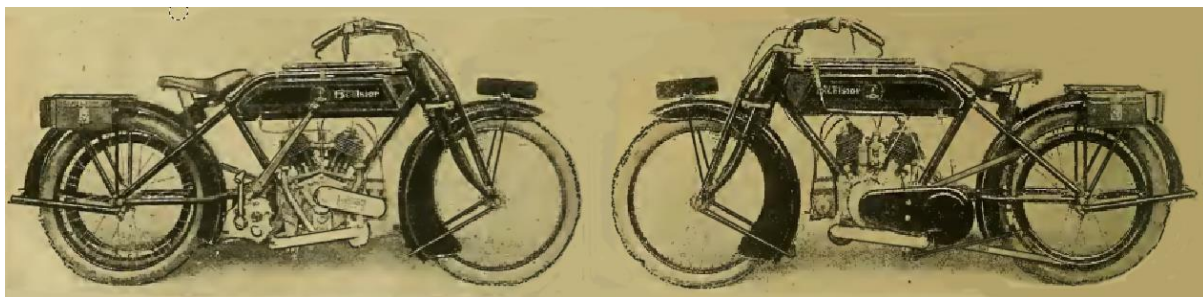


Indian's flat twin didn't have the US market to itself for long but neither of the new twins came from established manufacturers. Left: The 920cc Bailey Flyer, rated at 20hp, featured shaft drive, a crankcase forming part of the frame and a three-speed gearbox mounted to the side of the engine. Starting was via a hand lever. The Century was a lightweight, at just 130lb. It also featured a hand starting lever but transmission was by chain with ignition by flywheel magneto.



Not every American wanted a big V-twin. Latest addition to a growing crop of powered bicycles was the Merkel motor wheel, which incorporated leaf-spring suspension. The manufacturers claimed that a standard rear wheel could be replaced with a Merkel in 30 minutes.

THE BRITISH EXCELSIOR Co introduced a 496cc 4hp JAP twin-powered 'dual purpose' (solo/sidecar) model that was expected to replace its well established big single. The twin was designed to handle military and overseas conditions with substantial mudguards and 6in of ground clearance. Transmission was via a three-speed Sturmey Archer countershaft gearbox. "Chain-cum-belt transmission is employed, the countershaft pulley being of sensible diameter, and the chain, of course, enclosed. The rear wheel brake is a thoroughly well-designed mechanism, and possesses any amount of retarding effect...The machine generally conveys an impression of solidity. The clutch, it will be observed, is controlled from the handle-bars, and the change speed lever is well situated and of sensible size...The adoption of a medium powered twin by the Excelsior firm is a sign of the times, as this company has hitherto paid special attention to single-cylinder mounts."

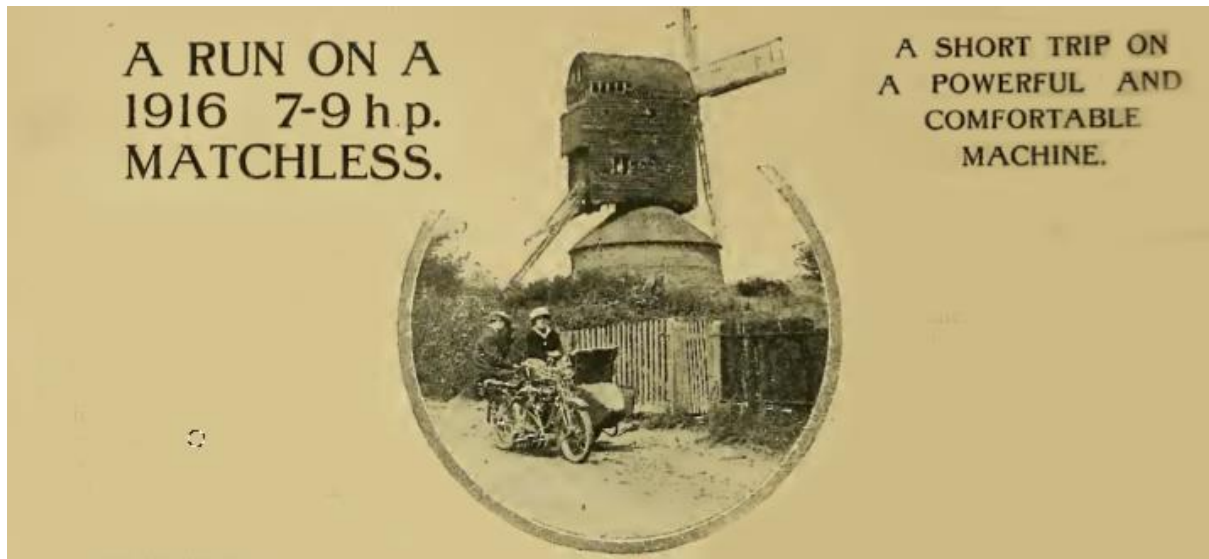


Excelsior moved from a big single to a middleweight twin. "The model illustrated is by this time in the hands of the French Government."

"MAJOR TW LOUGHBOROUGH, the secretary of the Auto Cycle Union, while on duty with the Surrey Volunteers the other evening, was driving his 7hp Matchless and sidecar at a very slow speed, when he gently bumped into a pillar box at a point where three roads joined. He dismounted to examine one of the roads and see if it were the one he wanted to take, and then, as he thought, crossed over to where his machine was, only to find that he had lost it

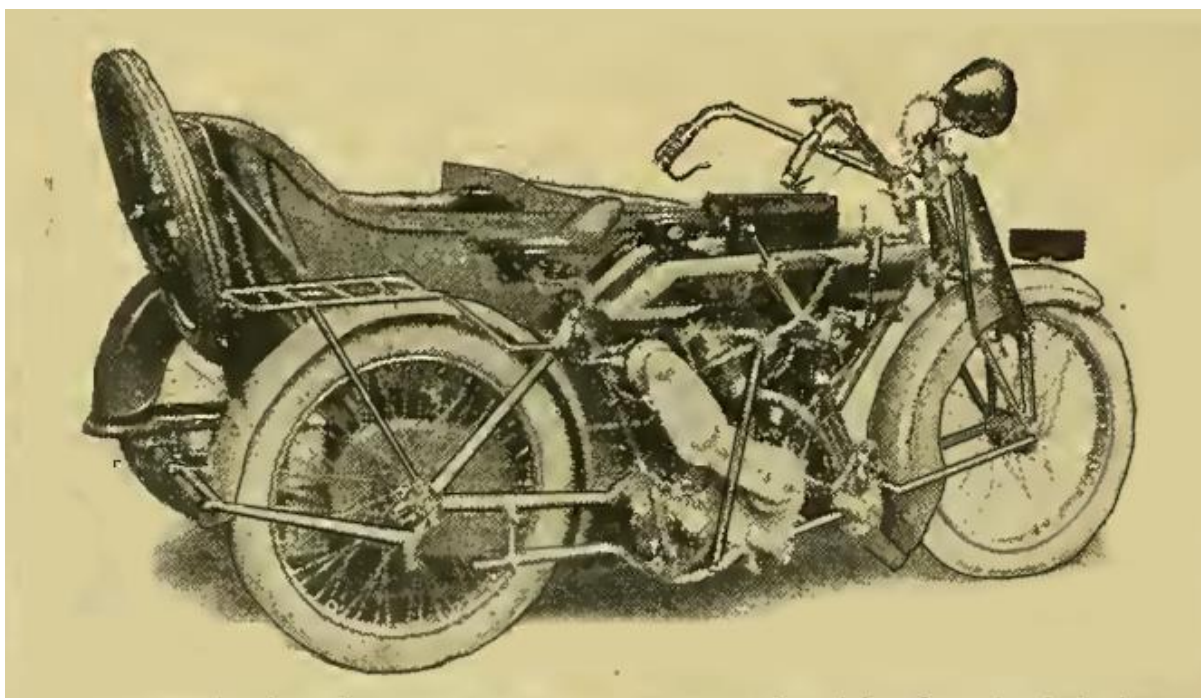
completely. After groping about for twenty minutes, he had to call in the aid of a passing cyclist before he was able to discover it. This is one of the weirdest fog experiences of which we have heard.”

AUSSIE TRAFFIC COPS were issued with motor cycles. The Motor Cycle in Australia reported that the mounted constables wore “a uniform of neat-fitting khaki with tan leggings and boots”. And *The Motor Cycle* remarked: “Let us hope that the British police will follow the example of the more progressive Colonial...The Sydney motor cycle police are mounted chiefly on British-made machines, including Douglas, AJS, BSA, James, Speedwell, and Rover. ‘Some exciting dust-ups are being eagerly awaited’, remarks the motor cycling journal of New Zealand.”



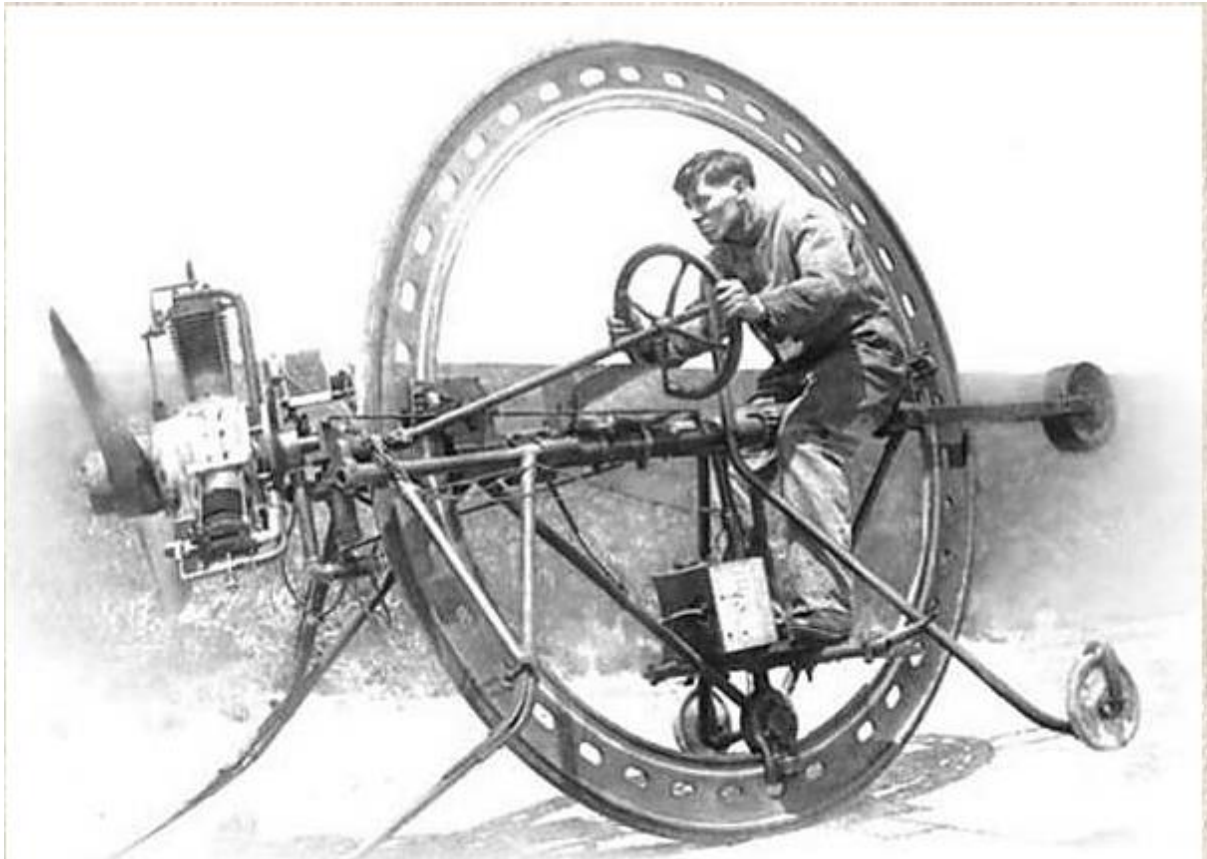
“The Matchless halts beside an old windmill. These picturesque landmarks are rapidly falling into disuse, and the little country miller may in a few years cease to be.”

“THIS MACHINE WAS NO manufacturer’s specially tuned demonstration model, but a hard-worked hack belonging to a friend, which had had a season’s wear. It was a fine autumn day, and as our course lay in the teeth of a south-westerly gale the engine was hard put to it for forty miles, but behaved splendidly. It would have done better had not the clutch been overlubricated: this was caused by the relief pipe from the crank case throwing too much oil on to the chains and clutch—a fault which could have been easily remedied by closing the pipe a little. Despite this slight inconvenience the machine travelled extremely well and good time was made. The MAG engine with which this outfit is equipped deserves the highest praise. It was not extraordinarily fast, but was a good puller, capable of a high average speed without making the slightest fuss, and totally devoid of all clatter and valve noises which are far too prevalent in many motor cycle engines. At 20mph it was inaudible, and at higher speeds practically so, while the exhaust was quiet, though in no way throttled unduly. In short, the machine was one which a considerate driver would rejoice to use...the change-speed was excellent and the clutch sweet in action, but the method of the control of the latter would have been better appreciated had the actuation been by a simple pedal similar to that working the brake and placed on the opposite footrest to that on which the brake control is situated. The other criticism is touching the handle-bars, which in the writer’s opinion might be a trifle wider. Notwithstanding this fact the combination steered remarkably well, and even in unaccustomed hands proved a real pleasure to drive in traffic on account of the controllability of the engine and the excellence of the brakes. The sidecar, the wheel of which is sprung, was luxuriously comfortable, and altogether the machine is one calculated to satisfy the most critical expert.”



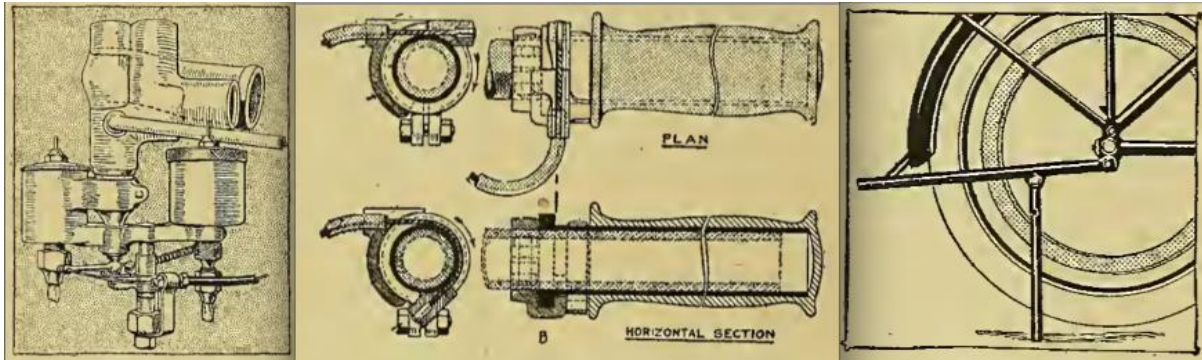
A 1916 Matchless combination equipped with electric lighting set and interchangeable spare wheel. The engine is a 7hp MAG.

"I HAVE NEVER—SHORT of a big racing car—tasted such fiendish acceleration as a well-tuned four-cylinder motor cycle affords," Ixion wrote. "It must be sampled to be believed. The response to the throttle is simply terrific, and the machine positively leaps away. By comparison the flat twin is certainly sluggish, unless it is geared rather low, or unless full advantage is taken of the gear box in snatching a jump. I do not think the flat twin is inferior to the vertical single in this respect, though some people say it is. At any rate, there are two features of value in acceleration—the first is its rate, the second is its smoothness. The four-cylinder has both. It gathers speed at immense velocity in a given distance, and it does so without rousing any sensation of effort. The flat twin accelerates less rapidly (at any rate, on equivalent gear ratios), but with almost equal smoothness. The vertical single accelerates less rapidly than a four-cylinder, and at about the same rate as the flat twin; but it labours very perceptibly under the process by comparison with the four and the twin alike; there is a sensation of hammering. In such comparisons it must be remembered that the 500cc flat twin is a suckling compared to the four-cylinder or the vertical single; comparatively few designers have tackled this type of engine, and those who have can only claim a short acquaintance with its possibilities. I incline to believe that the flexibility, acceleration, and gear-accepting qualities of the larger flat twins will improve rapidly during the first few years after the war."



If you've been through the 1914 page you may recall the Harlingue monowheel. Three years later it had gained a more practicable prop and seems to be a working vehicle. Mr Harlingue certainly looks determined.

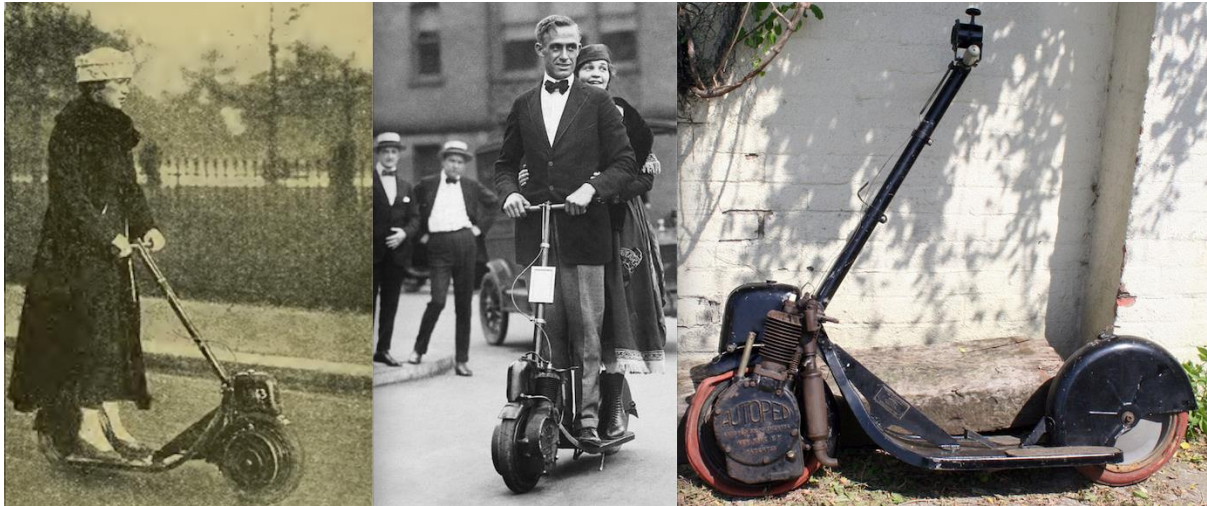
HERE'S IXION AT HIS WHIMISCAL BEST, you lucky people: "A paragraph on an unusual subject for this paper. Who is the bravest living Englishman? No, no, no; spare me these war yarns. They show courage of a type, I admit; courage in comradeship, where thousands face a speedy death side by side; courage when the blood is up, and danger has shrunk to a commonplace. The courage I shall now retail is of a higher, sterner sort—courage in solitude, the manful facing of a lonely death in cold, deliberate blood. It is my often unhappy lot to test various contraptions forwarded to the office by inventors, some of them sane, others—! Last week I opened a bulky parcel addressed to 'Ixion', and carefully unfolded a most imposing looking waterproof, built of most admirable cloth. It was obviously large, and as it unfolded, it seemed a trifle shapeless. The staff were called in to collaborate. At last the design was solved. It had a round hole, with rain-turning collar, through which one thrust one's head, poncho-wise; it covered not only one's person, but one's machine, and was attached thereto by numerous little straps and tapes and ribbons. It happened to be raining at the time, and the staff gleefully hauled me into the yard, perched me on my saddle, stuck my head through the hole, and strapped the abomination firmly down. I was as helpless as a trussed fowl. I could not think of anybody who would release me but my faithful wife, resident many miles away; so I manfully operated my kick-starter and rode home."



Motor cycle development wasn't stopped by the war and neither was the flow of handy accessories. From the left: A Triumph rider from Wolverhampton named Willis added an extra float chamber which allowed him to start up on petrol and add the desired proportion of 'heavy fuel' usually paraffin. A Brummy named Sadler patented "a twisting handle of extreme simplicity"; the Yanks already preferred twistgrips and the Brits were coming round to them. The 'jack stand' was a labour saving device: "Foot pressure is applied on the stand proper, which acts as a lever and lifts the rear wheel from the ground. A slight backward pull on the machine then swings the stand in the ordinary position. This is accomplished while the rider is standing alongside his machine holding it erect."

"ENRICHING THE ENGLISH LANGUAGE: The use of the term 'flat twin' in preference to 'horizontally-opposed engine' is merely a case of economy in words. Americans cannot agree whether to accept the term. Some time ago, Mr EB Holton, a leading motor cyclist over the water, seized upon the term with enthusiasm, and said: 'As it is good, I hope we adopt it into our own lingo. It is the English appellation for a doubly opposed motor. The beauty of it is that it fully describes the type, and at the same time is short.' Mr John M Taylor, of the Hendee Co, dislikes the term 'flat twin' so much that he has gone to the trouble of denying its American origin in a letter issued to all the technical journals. 'We have undoubtedly played a great many tricks with the English language,' writes Mr Taylor, 'but we have not perpetrated 'flat twin'. No need for this denial, since *The Motor Cycle* takes full responsibility! But Mr Taylor stoutly shoulders the even greater responsibility of speaking for the American nation by stating that the term would never find favour in the States! Be that as it may, journals throughout the world (including American journals) are following the lead of *The Motor Cycle*, and even if our American friends do not put their hall mark upon it, they will find that ere long it will become the accepted term among motor cyclists...*The Irish Cyclist and Motor Cyclist* says: 'It is expressive, and, though America may not like it, it will stick.'"

"THE USES OF THE AUTO-PED are spreading in America. The golf caddy now employs a motor scooter, and, of course, butcher boys had them long ago. Still another use for the Auto-ped is as a tender to a large car in case of breakdown. The Auto-ped is mounted on suitable brackets arranged on the footboard, and in case of a derangement or tyre trouble the chauffeur mounts the scooter and hurries off to summon help."



“The Auto-ped, an American idea, is not unknown to our readers and now has arrived in England. Its user was soon in trouble—not of the mechanical variety! Miss Shirley Kellogg, the revue actress, took her motor scooter for a spin and was hauled up for ‘causing an obstruction’, so the daily papers say. Most likely, however, the absence of registration letters was the real offence, as the scooter is a motor cycle within the meaning of the Act.” (Centre) Back in the States the Auto-ped had room for two. (Right) Some utility tiddlers have survived for more than a century.

“ONE OF THE MOST LAW-DEFYING riders of my acquaintance lives in the country, and is medically unfit for military service,” Ixion wrote. “The local constable has been called up, and as the neighbourhood is tolerably free from serious crime, the authorities have appointed the lurid motor cyclist in question special constable for the district. Naturally, his first official act has been to abolish (silently and informally) the speed limit for that locality.”



“Lt

FA (Eric) Robinson, to whom the Military Cross has been awarded for great gallantry whilst in command of a Tank'. His wife is proudly wearing the coveted honour. They are both keen sidecarists, the motor cycle being on this occasion a Bradbury, though the Zenith was most frequently Lt Robinson's mount in peace time...After tremendous fighting his machine became 'ditched', which necessitated fourteen hours' hard digging under heavy fire to release it. On another occasion his 'Tank' was hit by a direct shell and damaged, but he got his men out safely and immediately went into the trenches and worked a machine gun.”

“BOTH THE WELL KNOWN exponents of AJS machines, Cpl Cyril Williams and Eric Williams (late Cpl), who are, by the way, unrelated, have received honours for bravery in the field. The latter, it will be recalled, received the DCM many months ago, and the latest news is that Cpl Cyril Williams has been awarded the Military Medal. Congratulations! New readers may be reminded that Eric was first and Cyril second in the Junior TT Race of 1914. We learn also that Neville Hall, the OK rider who performed conspicuously in the 1914 Six Days Trial, is one of the latest recipients of the Military Medal.”

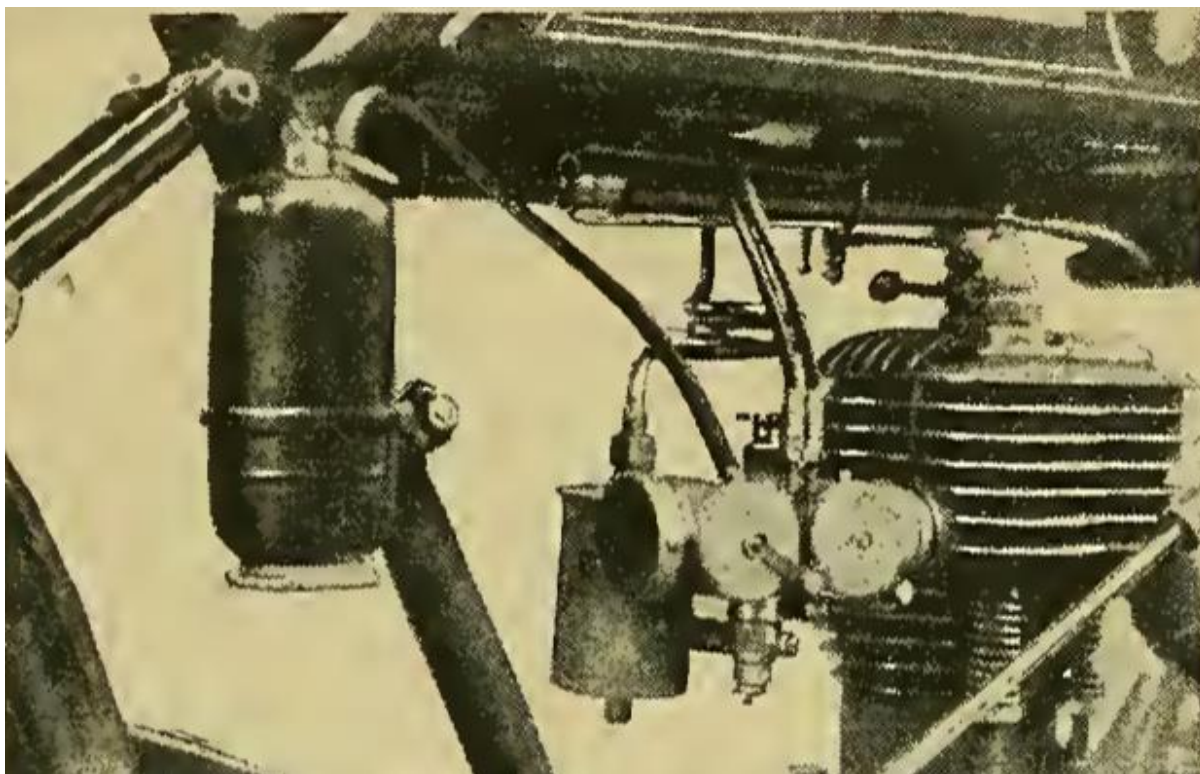
THE NORTHAMPTONSHIRE LICENCES Committee asked the Home Office and Local Government Board to forbid driving licences to “obviously incompetent persons, such as those suffering from blindness, deafness, etc” (there was no such thing as a driving test). The Motor Cycle noted “a glaring inconsistency in this matter, viz, that whereas efforts are, on the one

hand, being made to provide motor vehicles for men incapacitated in the war by arranging the controls suitably for men who have lost an arm or a leg, on the other we have an authority (?) actually urging that licences be withheld from people who are deaf... Whilst the committee are undoubtedly right in recommending that some discrimination should be made in granting licences to blind and limbless people, they are surely overstepping the mark when they specifically include those who suffer from deafness. Many successful motorists of the present day are deaf...A man does not steer by ear or avoid a collision because he hears another vehicle...A deaf man may occasion some delay to those who are overtaking him on a narrow road, but this difficulty can easily be removed by the use of a mirror on the handle-bar, and it cannot be said that deaf people are the only sinners in this respect."



Handlebars were changing shape. Left: "Showing in an exaggerated manner how the strain falls on the bent wrists and bottom of back when upswept bars are used." Right: "Use of semi-TT bars prevents strain at bottom of back and wrists, where fatigue is first felt...Much has been learnt as regards riding position, and in all probability the war will see the last of raised handle-bars, which demand an additional fitment, viz, a back rest, when applied to a motor cycle."

THE BLUE 'UN'S CORRESPONDENCE pages regularly hosted long running, and sometimes acrimonious, debates on technical issues. One such concerned 'bearing pressures', as related to long-stroke and short-stroke engines. James Lansdowne Norton AMIAE ("than whom no greater exponent of the long stroke engine exists") himself weighed in at one point, after which he received this following note from Paul A Hippermann, a German in an internment camp in the Isle of Man: "May I be allowed to mention that the value of the 27lb given in the second formula is not quite correct, as it should be 30.261lb? Being a designer of high-speed petrol engines myself, and one who takes a special interest in the long-stroke type, I trust that you will pardon me for trying to uphold the name of your famous engine. Of course, there is no doubt that other people besides yourself have found the error out, but I simply took the matter up for the reason mentioned above. The formula given for the pressure or force required is $P = \frac{wv^2}{g}$. The value of v^2 in the case of the 96mm stroke engine is equal to $96 \times 3.14159 \times 1500$ over $60 \times 24.4 \times 12$ squared = 611.93. Then $P = 0.25 \times 611.93$ over $32.2 \times 157 = 30.261$ lb. If I had the necessary writing space at my disposal I would write something more on main and gudgeon pin bearing pressures." World war was world war but...motor cycling was motor cycling.



A model railway engineer in North London equipped his 4¼hp Beeza with an acetylene gas generator which allowed him to start his bike which then ran on pure paraffin: "To start the machine the paraffin is turned on, the carburetter flooded, and the water turned on in the small generator, which is connected to the auxiliary jet by a rubber tube. After injecting paraffin into the cylinder for the purpose of freeing the rings the engine may be started." A chemist subsequently warned that this practice "is very dangerous, and those who escape accident while using it do so simply by good luck", after which RG Lucas, Hon Sec of the British Acetylene and Welding Association, wrote: "This letter from Mr Lees is of so extraordinarily inaccurate a nature that we are really at a loss to know what object Mr Lees had in writing it, unless his statements were due to sheer ignorance...As a matter of fact, acetylene behaves in an internal combustion motor in exactly the same way as a mixture of petrol vapour and air or of coal gas and air...his opinion is directly opposed to that of every scientist of note in the kingdom."

THE WOLFRUNNA ENGINEERING Co, which made Wolf motor cycles, complained that having called a halt on civilian motor cycle production and banned imports, the Government had allowed Harley-Davidson to ship bikes over the pond. The Blue 'Un reported: "...a few weeks ago, at short notice, the Harley-Davidson Co agreed to release the whole of its stock of HD machines to the Russian Government for Army purposes on the condition that they were granted a permit by the Board of Trade to import new machines from America to replace the stock. This course, in the exceptional conditions, was allowed."

AN AMERICAN MAGAZINE reported that after a racing car suffered a smashed sump and total loss of oil it "raced for several miles on the smell of oil remaining in the engine, aided by powdered graphite inserted through the sparking plug holes." A British pundit noted "American papers print some tall stuff."



I HAD LONG PROMISED MYSELF a test of the lady's model Douglas, and one foggy and miserable morning a few weeks ago, to my pleasure, I received a wire from the London depot notifying its arrival. Some thoughtful person had left just enough petrol in the tank to cover the road distance between the depot and home. The motor cycle was new, spotlessly clean, its plated parts reflecting one's image in various distortions. In striking contrast, the roads were about as filthy from the trampled snow as I have ever seen them. It went to my heart to ride the mount for the first time under such unfavourable conditions, but after all what are motor cycles manufactured for but to drive, both in good and bad weather? It was the model known as the X model, with the well-known 2 $\frac{3}{4}$ hp engine and open frame. The three-speed gear box, clutch, and kick starter are similar to those of the 4hp model. The gear handle was already in the neutral notch, so I flooded the carburetter and gave the kick starter a mighty kick. I have been accustomed to handling a big twin, and the mighty thrust not only started the engine, but almost upset the balance of both myself and the machine. It requires no superhuman strength to start the Douglas, as the engine depends more upon revolutions than compression for its efficiency. The frame is low and the large, comfortable footboards, offer many changes of position...the design has been well thought out for the lady rider. One feels so near the ground and the pull of the engine is so regular that, although I rode the mount through inches of mud and slush, and again on a frosty morning, when the surface of the



"A winter test of a lady's Douglas, a machine possessing a flat twin engine of 2 $\frac{1}{4}$ hp, three-speed gear, and kick-starter."

road was almost as slippery as glass, there was never any tendency to skid: none of that 'tail-wagging' that even experienced motor cyclists find nerve wearing. The aluminium covers give

the motor cycle a very smart finish; these are held by butterfly nuts that are the work of a minute to remove with nothing but Nature's tools, the fingers. A small hinged door in the aluminium even saves one this trouble when access to the rear plug is required. The rider is well protected by the flanged mudguard; the front mudguard is so ample that I noticed when riding through puddles that a small stream of water (which would on many machines find a resting place on the rider's skirt) was thrown along in front of the footboards. This guard might with advantage be copied. I practically lived on the machine for some days, and have nothing but praise for the rapid acceleration and even running of the little engine; the machine is light to handle and easy to drive and manage. No lady rider could wish for a better solo mount. There is just one small point in which improvement can be suggested—that is, when the foot clutch is out the pedal interferes with the steering by catching in the front mudguard flange. This, however, can be easily remedied by a crook being made to allow for clutch pedal, and no doubt such a minor point will soon be remedied. I was sorry when the Douglas had to go back."

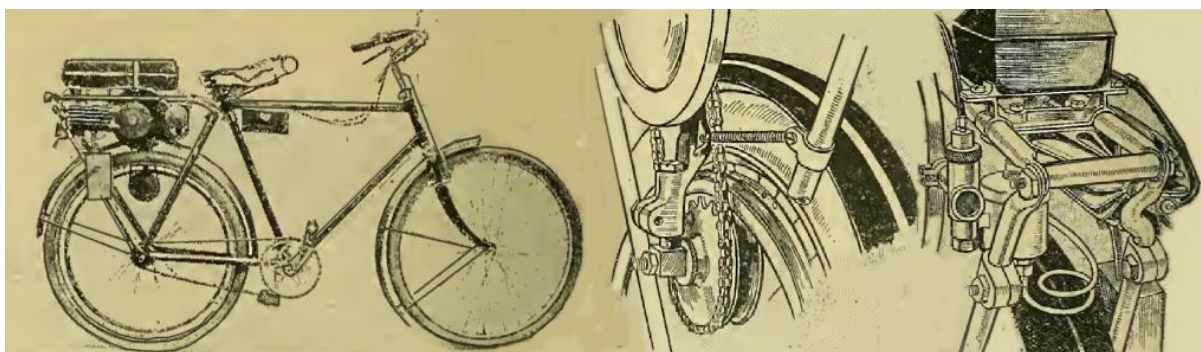
"THAT ERRING COMPOSITOR: A trade contemporary refers to a five-speed Triumph having been seen on the road. Arguments in favour of four speeds we have had in plenty, but we recollect no rider of experience urging the desirability of five speeds. A misprint, no doubt."

AT A MEETING OF the Institution of Automobile Engineers FL Martineau, MIMechE, read a paper of hydraulic transmission.



Not every American wanted a big V-twin, nor yet a flat twin. The Merkel Motor Wheel Co of East Rochester, NY, offered a 26in wheel incorporating leaf-spring suspension and 200cc 2hp ohv engine. The manufacturers claimed that a standard rear wheel could be replaced with a Merkel rear mudguard, fuel tank and engine in 30 minutes. Meanwhile, back in Blighty the 98cc 1hp two-stroke Simplex power unit, made by Patrick Engineering of Birmingham, had evolved from a 1915 patent drawing to a working model of 'The Motor on the Carrier', attached to a New Hudson bicycle via an aluminium carrier bracket. Simplex claimed its engine could be fitted in just five minutes, but production could not start until after the war.

IN THE USA *MOTOR CYCLING and Bicycling* featured 11 new lightweights; five of them bicycles with clip-on engines. *The Motor Cycle* commented: "With one or two exceptions, the remainder appear somewhat antiquated and quaint."



Left: Another British clip-on awaiting peacetime to go into series production was the Zephyr. Like the Simplex it comprised a diminutive (104cc), 40lb two-stroke mounted over the rear wheel. The magneto was mounted upside down under the front of the carrier. Centre: "The Zephyr transmission, demonstrating the method of carrying the friction wheel on the rocking arm." Right: "Method of attaching the engine and the tank to the carrier."

"THE SPECIFICATION LAID DOWN by the Russian Government has forced many British manufacturers to alter their designs in a way that will be truly beneficial to Overseas riders. Among other things an overall ground clearance of 6in is stipulated, and many leading British manufacturers are now building their machines on lines which will put an end to most of the ancient Overseas grumbles."

A ST PETERSBURG MOTOR CYCLE shop, complete with equipment and staff, was relocated to an abandoned factory in Moscow and expanded to handle motor cycle repairs and renovations for the Russian Army. Up to 1,800 motor cycles were collected there, representing more than half the bikes then in the country)

"MRS HARDEE, SECRETARY OF the Woolwich MCC, has, we are told, accepted the situation of forewoman at a leading firm of motor cycle manufacturers. She will supervise the woman labour in one of the shops."

"THE WHOLE OUTPUT of the Lodge sparking plug factory has to be reserved for urgent national requirements. The company therefore regret that in future they will be unable to supply plugs (except for export) to orders unless accompanied by Munitions of War certificates."



"The ideal spring frame is slow in materialising, but in its absence it is encouraging to note that many makers are endeavouring to render their machines more comfortable by the introduction of spring saddle pillars..." From left: AJS, NAB, Clyno and Rex.

THE KIRKEE MCC OF POONA, India applied for affiliation to the ACU. "The club apparently is quite a live institution, and it is good news to hear of clubs affiliating in these strenuous times."

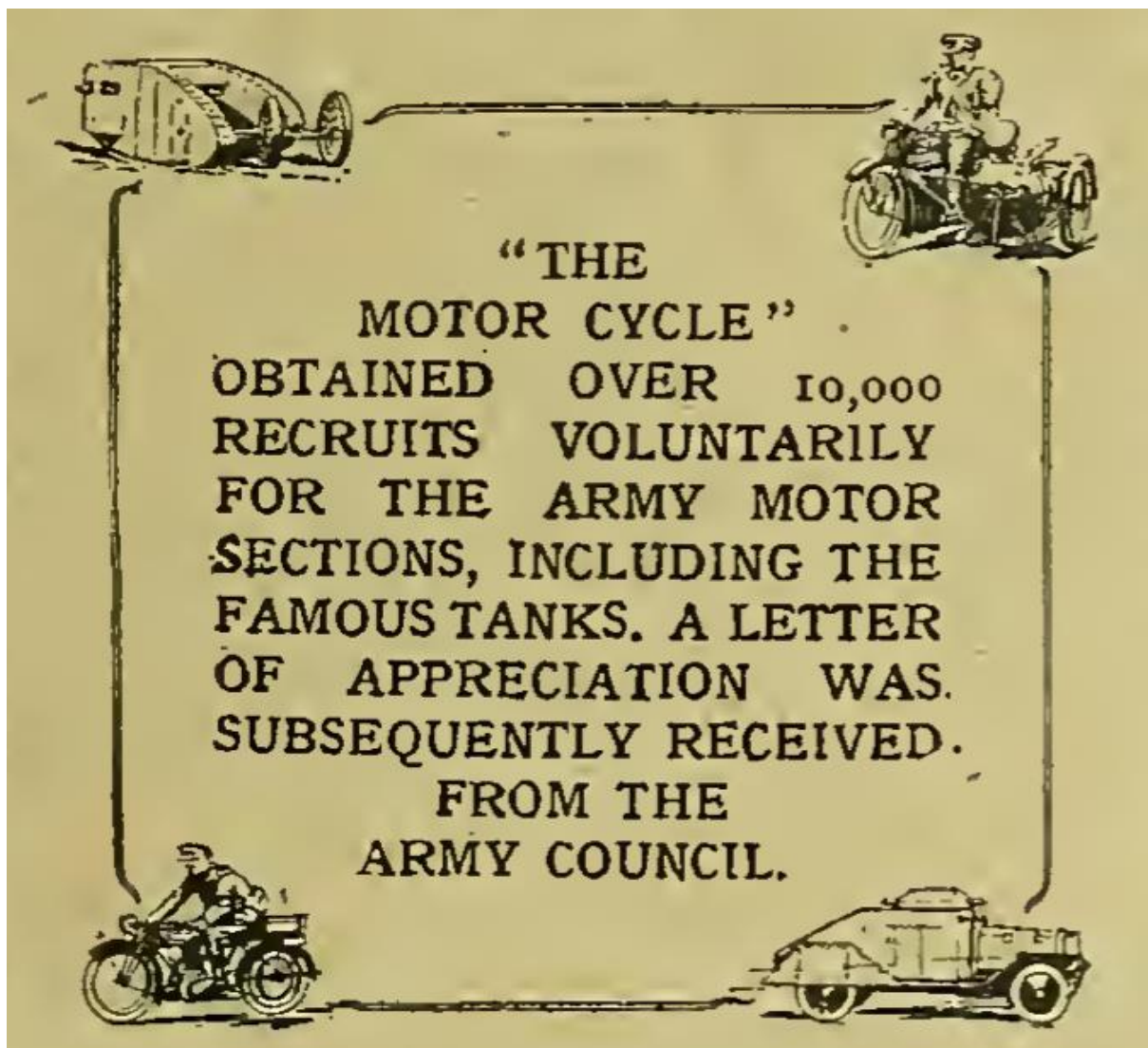
"AS MY GARAGE IS UNHEATED," Ixion wrote, "I have waited two months for a day on which spanners would not give me frostbite, and the other day I caused a great fire to be lighted in the

drawing-room, laid brown paper all over the carpet, stalked into the garage, tucked my baby two-stroke under my arm, carried it into the drawing-room, and decarbonised it there very comfortably without exciting Mrs 'Ixon' to do more than threaten an offensive."

"SIR,—IN THE ARCTIC WEATHER we have had here (Dublin), I have found some trouble in starting a 5-6hp twin. Since trying a tip I saw some time ago, I start first kick with ten degrees of frost. The tip is to use a mixture of methylated ether and petrol in equal parts and prime cylinders with this. Very little does, and it is worth the cost (about threepence or fourpence an ounce). This tip does not seem to be well known.

RL BOYD."

[This tip has frequently been mentioned in our pages by 'Ixon' and others.—Ed.]



"YOUTHFUL GENIUS: REGULARLY DRAWINGS of motor cycles are sent us by proud parents as examples of the budding genius of their small sons. We certainly do not wish to discourage amateur efforts, but the circumstances are rather reminiscent of the unfortunate artist who, having lost both arms, continued to paint with his feet. Admittedly his pictures were good, considering he had done them with his feet, but the question arose, Why do them at all?"

"WE HEAR OF THREE MOTOR CYCLISTS who have evolved special types of aeroplane engines so promising in design that they are being considered by the Army and Navy experts. It has often

been remarked with real truth that the motor cycle is the finest schooling a motor engineer can receive."

The motor and allied trades have responded most liberally to the nation's call for money (a list of subscriptions will be found on another page).
On Monday last the amount registered on the Coventry city barometer alone reached
• **£3,138,452**

COVENTRY'S
VICTORY
WAR LOAN BAROMETER
WHICH ITS PROGRESS
LAST DAY REACHED

TO THIS POINT

"The victory loan—subscriptions of the Motor and Allied Trades to the War Loan: AA & MU, £77,000; Alldays & Onions, £21,000; Bluemel Bros, £40,000; Bradbury & Co, £10,000; JB Brooks & Co, £25,000; BSA & Daimler, £500,000; Calcott Bros, £10,000; Calthorpe Motor Co, £30,000; Coventry Chain Co, £25,000; Douglas Bros, £200,000; Dunlop Rubber Co, £350,000; Enfield Cycle Co, £20,000; Lodge Sparking Plug Co, £25,000; Joseph Lucas, £25,000; Morgan Motor Co,

£20,000; C Vernon Pugh (Chairman of Rudge-Whitworth), £6,000; Rudge-Whitworth, £50,000; Triumph Cycle Co, £53,000.” The total loaned to the government by the transport sector was well over £310,000; current value about £15,000,000.

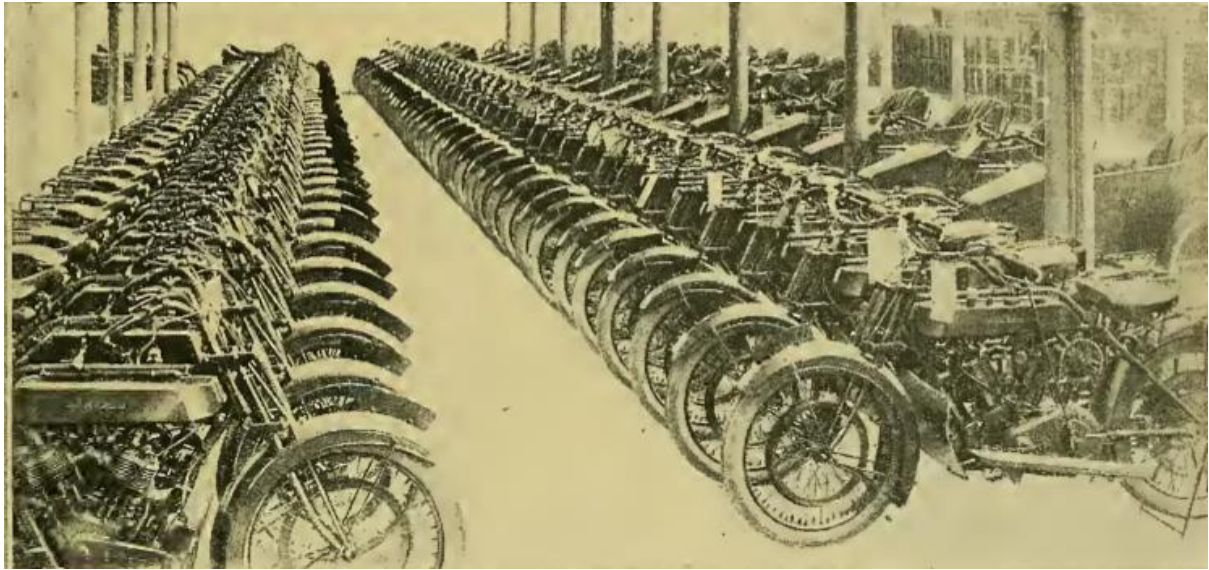
“THE ACU COMPETITIONS COMMITTEE RESOLVED: “That in all open competitions promoted by the Union other than those of an international character no motor cycle having any part of German, Austrian, Bulgarian, or Turkish origin or manufacture, and no entrant of such nationality shall be eligible to compete. This shall not apply to a motor cycle manufactured before August 1914.”



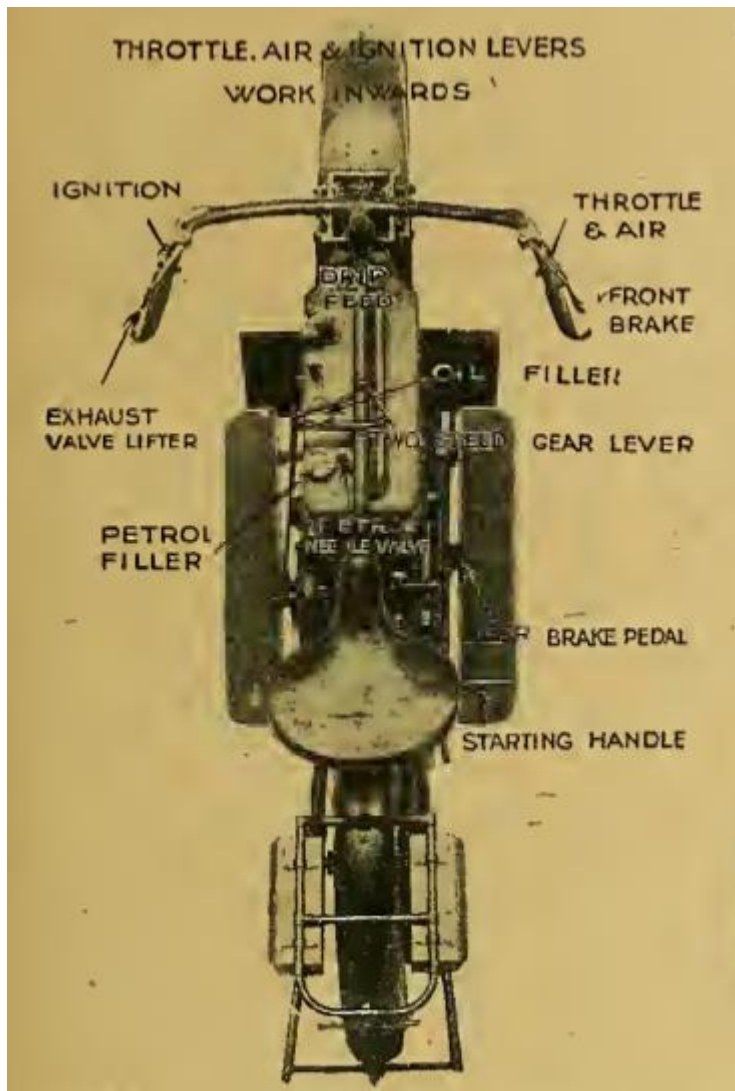
Bulgarian bikes were banned from ACU competitions. Which is all the excuse I need to include the only contemporary picture I have of a Bulgarian motor cyclist. пътувайте безопасно!

“ARE IMPORTS PROHIBITED?—NO! In March last imports of foreign-made motor cars and motor cycles were prohibited by the British Government, but during January (ie, ten months after the Order) no fewer than 201 motor cycles...were allowed into this country. Why?”

“FROM MARCH 1ST THE RAC will be known as the ‘Royal Overseas Officers’ Club’. With the exception of members directly engaged in war work, the civilian element will be entirely eliminated, and several thousand members will have to seek hospitality elsewhere.”



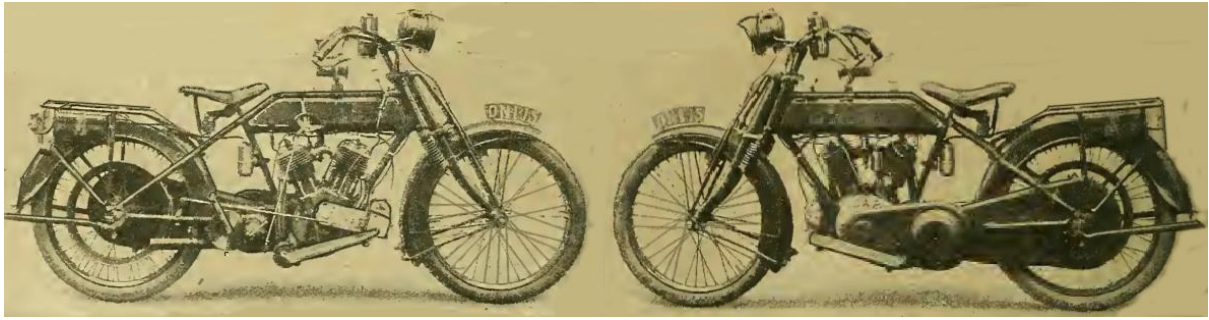
“Part of a large batch of 6hp and 8hp Enfield solo and sidecar machines completed to the order of the Russian Government...all the Enfield models have the Colonial type of frame...Other departures in connection with the machines illustrated are the fitting of semi-TT pattern handle-bars with outside cables and controls in place of the V-shaped handle-bars of the Enfield with enclosed cables. There are no plated parts on these machines, the mudguards, tank, and frame being finished to match in Service green.”



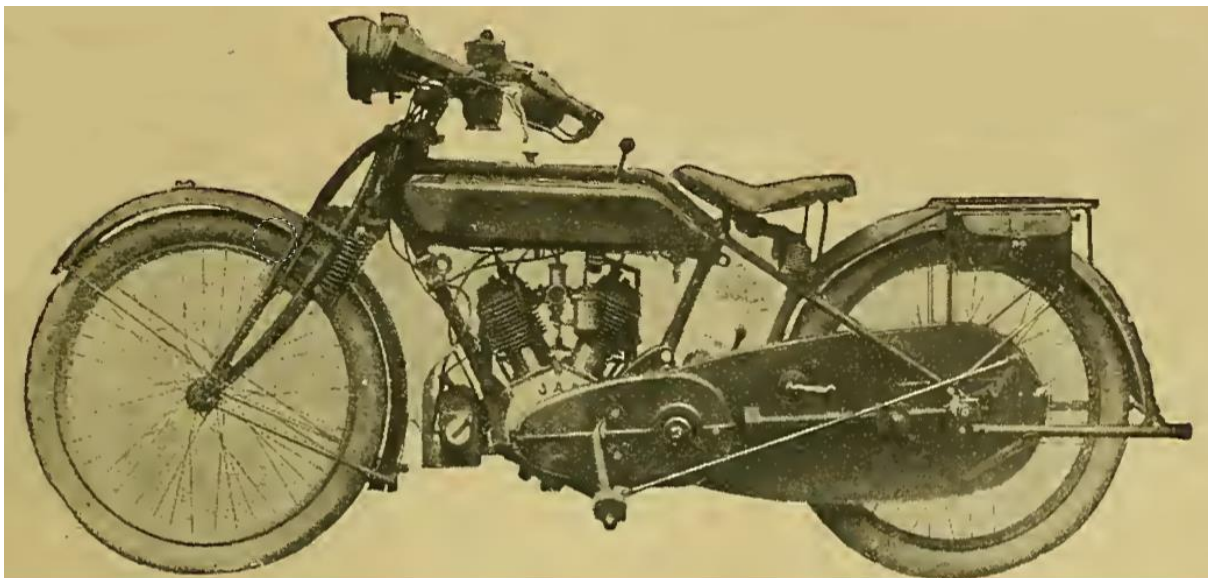
Plan view of the 6hp Enfield (the 8hp sidecar version was all but identical).



Among the stream of British bikes flowing into the Russian army was the 6hp, three-speed AJS. In line with Russian requirements it was built with the mandatory 6in ground clearance, the magneto was mounted behind the seat tube and oil-bath chain cases. As usual on AJS frames the top tube slanted downwards but the tank was horizontal and, as the Blue 'Un put it, was "saddled over this tube to give it a large capacity—as a matter of fact, it accommodates approximately two and a half gallons of spirit. The two lower portions of the tank are connected by a pipe at the rear end." This seems to presage the saddle tank that would arrive a decade later.



New Imperial's contribution to the Russian war effort, "a design primarily for heavy sidecar work", was powered by an 8hp 976cc JAP twin with fully enclosed all-chain drive and "specially made countershaft three-speed gear box with hand-controlled clutch a three-speed box". Ground clearance was 6 $\frac{3}{4}$ in with the 28x3in wheels demanded by the Russians. New Imperial produced a new frame "which has resulted in a very sturdy piece of work eminently suitable for the rough conditions it is expected to survive...the words 'oil' and 'petrol' are inscribed alongside the filler caps in English and Russian."



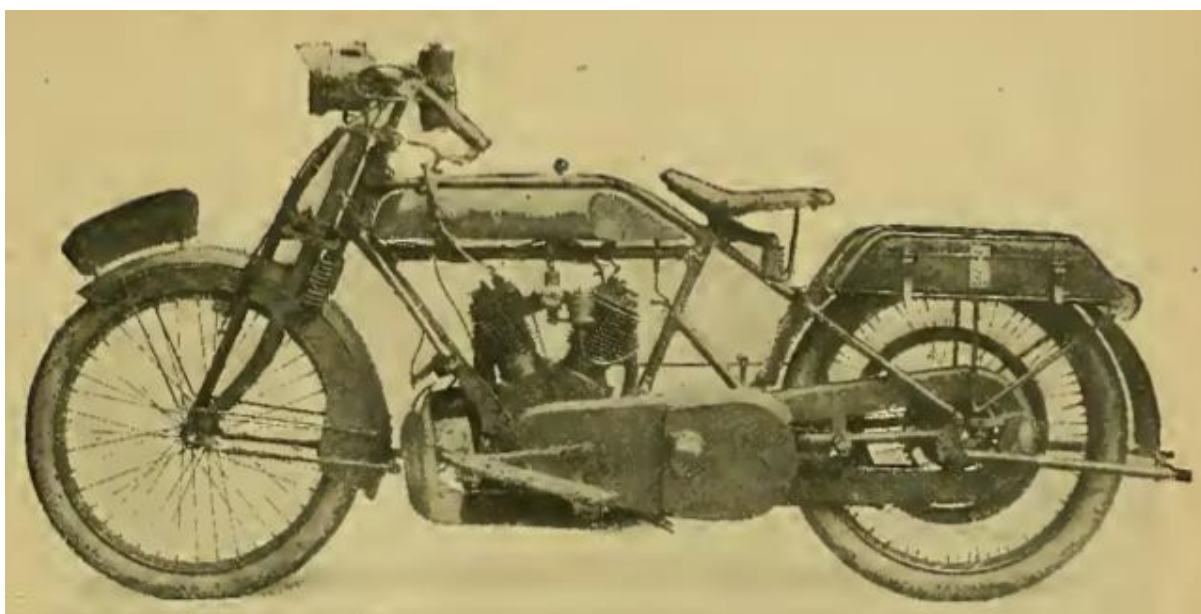
Rover was also producing bikes for Russia. It had a reputation for sporting singles, but for the Russian contract it fitted a 654cc 5hp JAP V-twin with all-chain drive running in oil-bath case and a three-speed box.



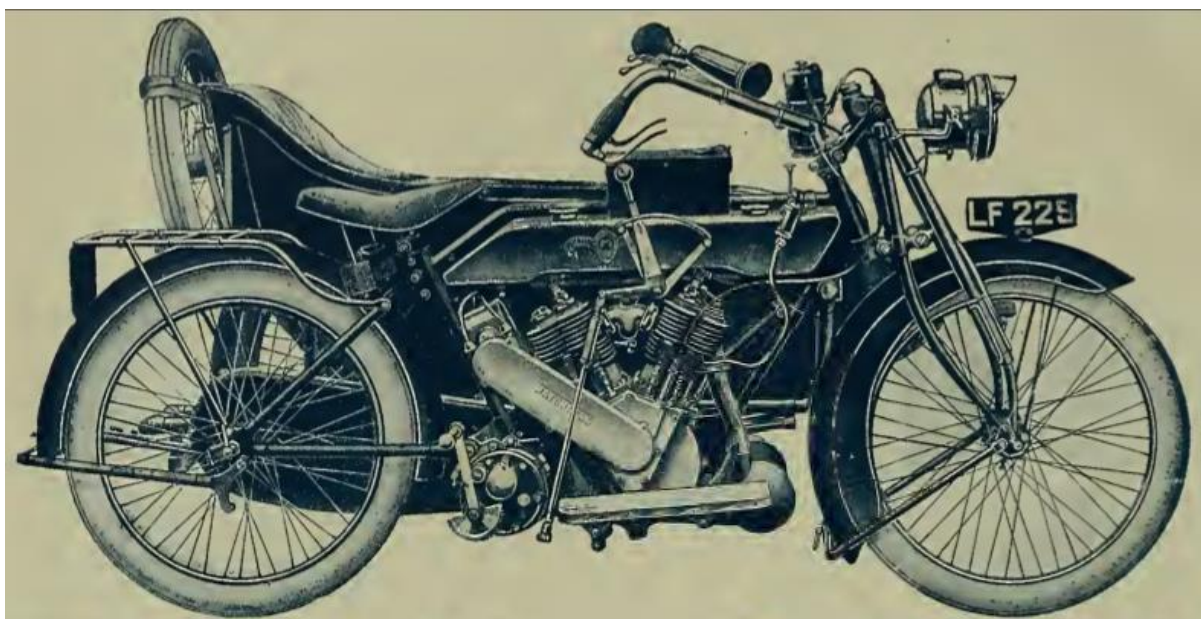
Sunbeam joined the list of manufacturers supplying bikes to Russia, but as the well established 3 $\frac{1}{2}$ hp one-lunger was too small for the Russian requirements a new model was created using the 654cc JAP twin engine, with the existing three-speed all-chain transmission. It joined the 8hp MAG-engined twins already hauling sidecars on the Russian front.



Left: "An all-chain driven 4hp Norton sidecar which is used by a Russian Army inspector of motor cycles on his rounds of the factories. This three-speed mount is an example of hundreds being manufactured for the Russian Army." Right: The Russian military model Big 4 was upgraded with full chain enclosure, a second pair of footrests in front of the originals, allowing the rider to stretch his legs [50 years later the American custom scene reinvented them as 'highway pegs'] and a magneto shield.



IN MANCHESTER THE ROYAL RUBY factory was also busy producing bikes for Russia. Rather than the firm's new spring-frame model Ruby's destined for the Russian front had reinforced rigid frames with 8hp 986cc JAP twin engines, all-chain transmission and the AJS three-speed gearbox and clutch with Royal Ruby's patented eccentric adjustment.



When the Russians were shopping for bikes in Blighty they were hardly going to ignore Woolwich. Matchless promptly produced several hundred 8B2/M Russian military model outfits, combining features from its existing flat-twin and MAG V-twin. Power was produced by the 8hp 976cc JAP twin that the Russians favoured, with three-speed transmission and interchangeable wheels. *The Motor Cycle* commented: "It is a sound and practical job, calculated to give absolute satisfaction under the most trying conditions." In most cases the entire output of military models was reserved for allied forces, but some Matchless 8B2/Ms did appear on Civvy Street.



In 1914 James was working in a 6hp 650cc twin colonial model but development was stopped by the war. However the design included almost everything the Russians were looking for so it was soon in production and heading east in large numbers, mostly with sidecars attached.

"CLYNOS FOR RUSSIA: One of the largest individual shares in the large Russian Government order was allotted to the Clyno Engineering Co, whose sidecar machines are represented on all the fighting fronts. The Wolverhampton works of the firm have been busily employed on a large order for weeks past, the activity in the motor cycle shops being akin to the rush of 1915, when the Motor Machine Gun Service was being equipped with its machine gun sidecars."

"A GOOD SUBSTITUTE: During the petrol shortage in the summer time, our attention was called to Petrolior, made by Messrs Archibald Vickers. Two members of our staff used this fuel with excellent results, one in a Matchless-MAG engine and the other in a 4hp Douglas. In neither case was any additional device employed, both carburetters being fitted with a warm air intake, but the Petrolior gave excellent results, only demanding that the spark lever be judiciously adjusted from time to time when any sign of knocking occurred. Petrolior is a hydro-carbon distillate containing neither paraffin nor petrol, of water-white appearance, and giving off a faint petrol-

like odour. The flash point is 76-80°, and the specific gravity between .771 and .779. When evaporated there is practically no residue, the amount being less than .005.”

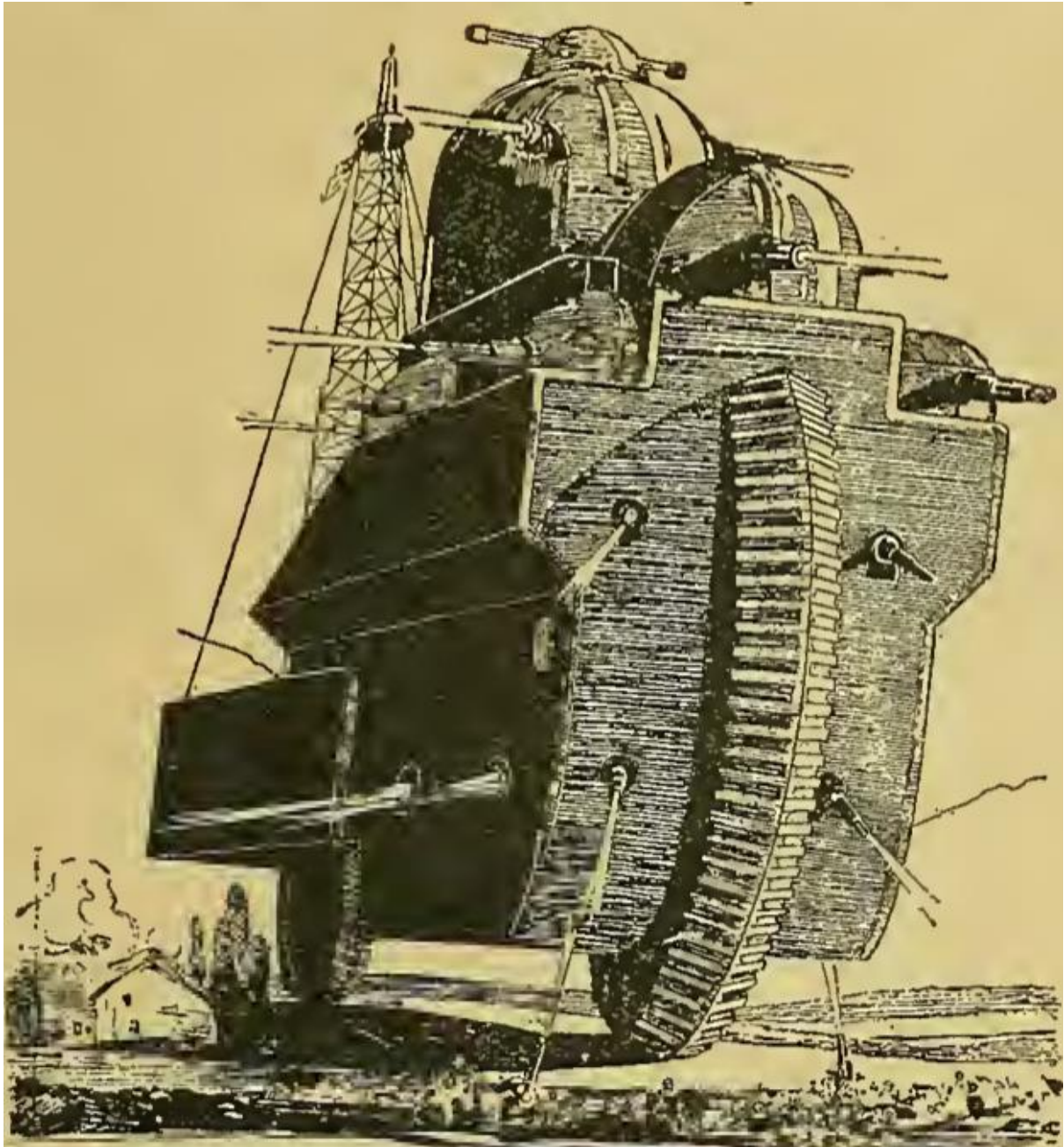
“SUBSTITUTES—OF THE OILY KIND: Last summer there were a score of petrol substitutes before the public. Our present list includes thirty-four names—some of them weird and wonderful.

“ANALYSIS OF A SUBSTITUTE: In view of the number of petrol substitutes now before the public, it will interest motor cyclists to know that a reader advises us that the analytical results of one of the substitutes offered to the motoring public show it to be a light petroleum lamp oil which can be bought at about half the price at an oil shop.”

“PETROL VS SUBSTITUTE: Substitutes are all the talk just now. Some riders would drop them tomorrow for ever if they could get petrol; other motor cyclists can be heard vowing that they will never pay a high price for petrol again, now that satisfactory substitutes at a reasonable figure are obtainable. It is largely a case of carburetter and the system of vaporising adopted.”

“PETROL SUBSTITUTES: We are informed that Messrs AW Gamage now keep a stock of petrol substitute in two-gallon tins. Delivery is uncertain owing to railway and transport difficulties, but motor cyclists can always get supplies by calling at Messrs Gamage’s Holborn depot. Up to the present these substitutes do not come under the Petrol Committee’s control. The firm stocks two kinds of substitute—one closely allied to paraffin and the other similar to benzole.”

WITH THE GOVERNMENT CLAMPING down on the civilian supply of petrol and petrol ‘substitutes’, and increasing the tax burden on substitutes, many enthusiasts faced taking their bikes off the road. There was widespread anger over the timing of the move, soon after many riders had paid their annual road tax; despite hints that some of that tax would be refunded, the Motor Cycle was not happy: “The unwelcome attentions of the Petrol Control Committee to substitutes is bound to have an adverse effect upon the prices of second-hand motor vehicles...Will the Petrol Control Committee extend its title to embrace substitutes? Why not the Petrol and Substitute Control Committee? You are asked to economise. A motor cyclist effects economy by riding his machine at ¾d a mile in preference to using the train at 1½d a mile, but he is now to be deprived of the opportunity by a Government Department...We have evidence that many motor car drivers have replaced their vehicles with motor cycles in order to travel further on the quantity of petrol allotted to them.”



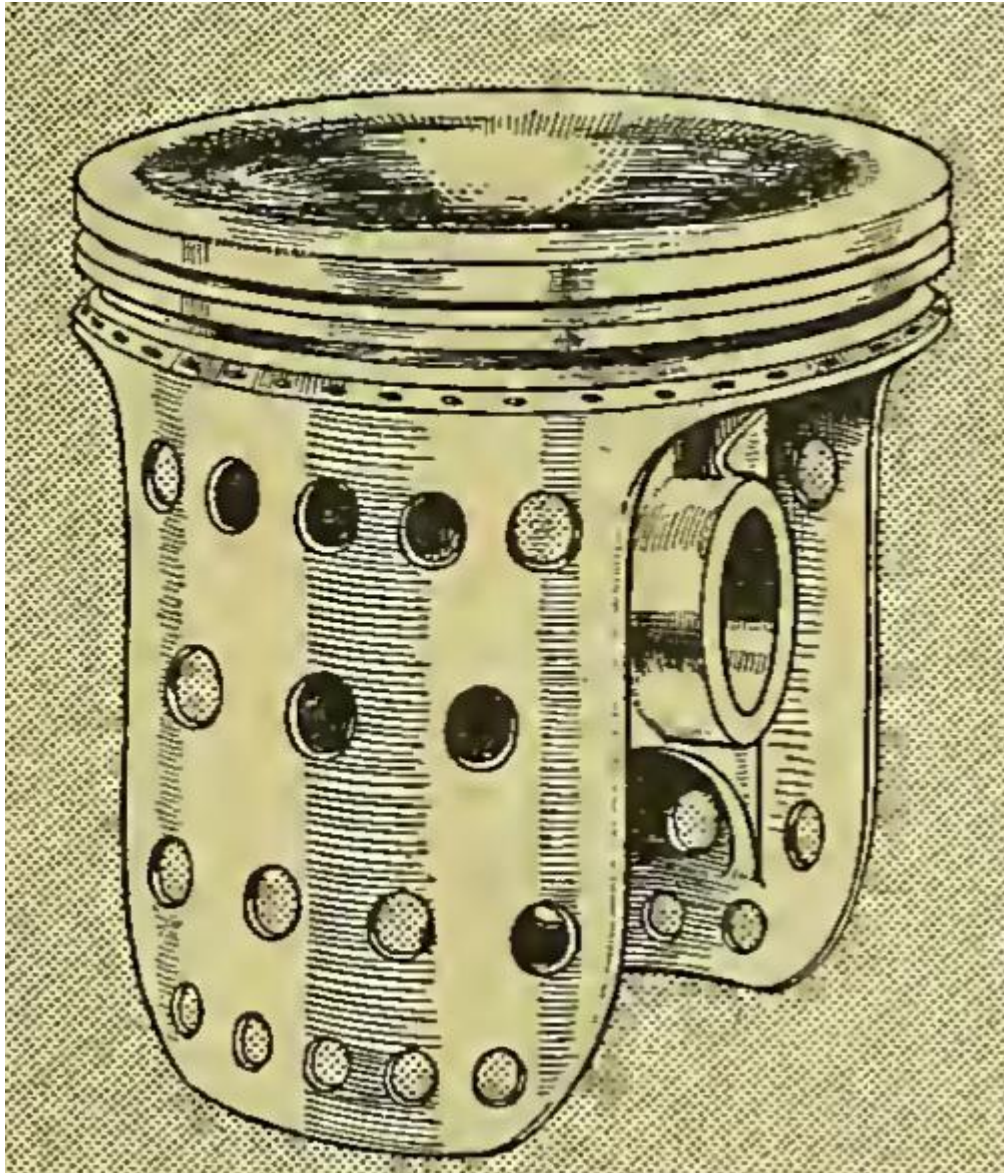
“A German conception of a ‘tank’: No doubt the British Tanks have stirred the imagination of all people, but they must have instilled terror into the heart of the Huns to cause them to perpetrate the ‘nightmare’ illustrated. The sketch, which originated in Germany, shows a single track leviathan, which preserves its balance by means of a gyroscope.”

MACHINE GUNS, TANKS AND AEROPLANES epitomised the technology of the Great War, but in France Monet & Goyon was established to cater for the human tragedy of mechanised warfare with trikes designed to be used by disabled ex-servicemen. Early examples featured a Wall Motor-Wheel but after the war they fitted Villiers engines. *[In its later incarnation the M&G trike bore an uncanny resemblance to a modern mobility trike; there's a pic in 1931.]*



Monet & Guyon fitted 117cc Wall Motor-Wheels (pictured on the solo they also built) to their pedal tricycles.

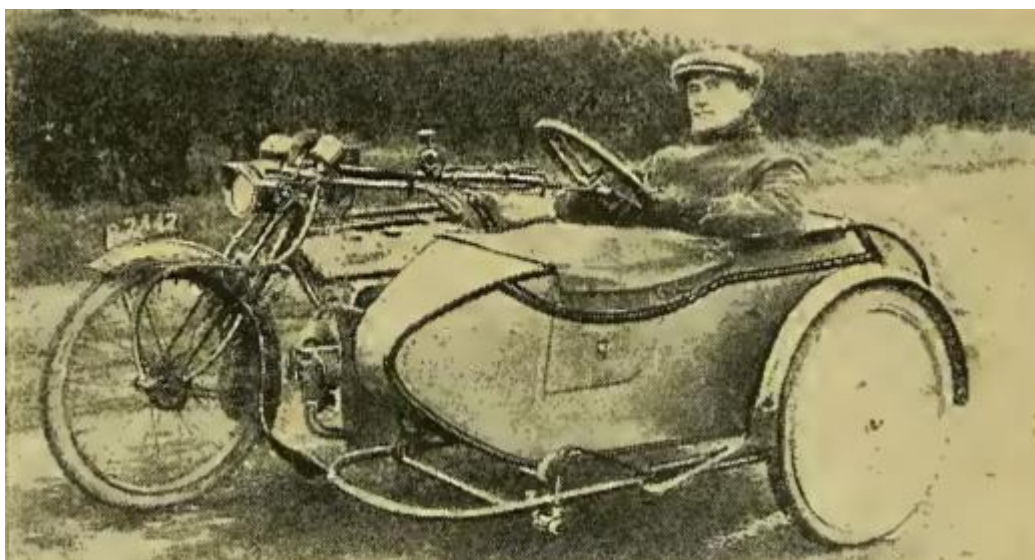
“ON STOPPING TO HELP a novice struggling at the roadside over a tyre repair, we were informed that he had experienced four punctures—one a huge hole—in the last four miles, and that, to add to his difficulties, he had lost one of his tyre levers. Examination revealed the fact that the missing lever was actually inside the inner tube. It had evidently fallen into the cover during the first repair, cutting its way to the interior of the tube when the machine was ridden—hence the large hole. There was nothing for it but to make another tear to get it out. Naturally the novice felt foolish, but our sympathies were with him. Once we ourselves lost a small metal-handled penknife, ultimately finding it snugly tucked between the cover and the tube. There it had ridden for 1,000 miles before chafing through the tube.”



"A 'slipper' type

piston designed by Mr HR Ricardo, BA, AMICE...To attain lightness the piston is constructed of aluminium...Briefly, Mr Ricardo's piston has the following advantages: (1) Gas pressure is transmitted directly to the centre of the gudgeon pin bosses. (2) Bearing surface is provided only where it is needed. (3) There is a passage for burnt gases which pass the piston rings. (4) The lower ring acts as a scraper, and returns the oil through the small holes." Harry Ricardo designed the engine that drove the new 'tanks' and would do great things with motor cycle engines. We shall encounter him again later.

"AN AMUSING SUGGESTION: America's latest suggestion to check excessive speed of motorists is that the vehicle should have a State-sealed box or receptacle in which should be placed cards bearing the name of the owner of the car, and his photograph and address. It is to be made so that by an ingenious automatic arrangement one of these cards should be liberated and fall on the road if a certain fixed speed were exceeded, the prosecution of the owner thus being an easy matter."



When

George Brough was pictured driving a combo from the sidecar would-be buyers were disappointed to learn that the rig was no more than an all-weather test rig; Brough would not be producing any more sidecar-steerers. Undaunted, WA McKeggie fitted a Derwent sidecar to his flat-twin Brough and adapted it to be driven from the chair. He reported it was easy to control and kept him warm and dry.

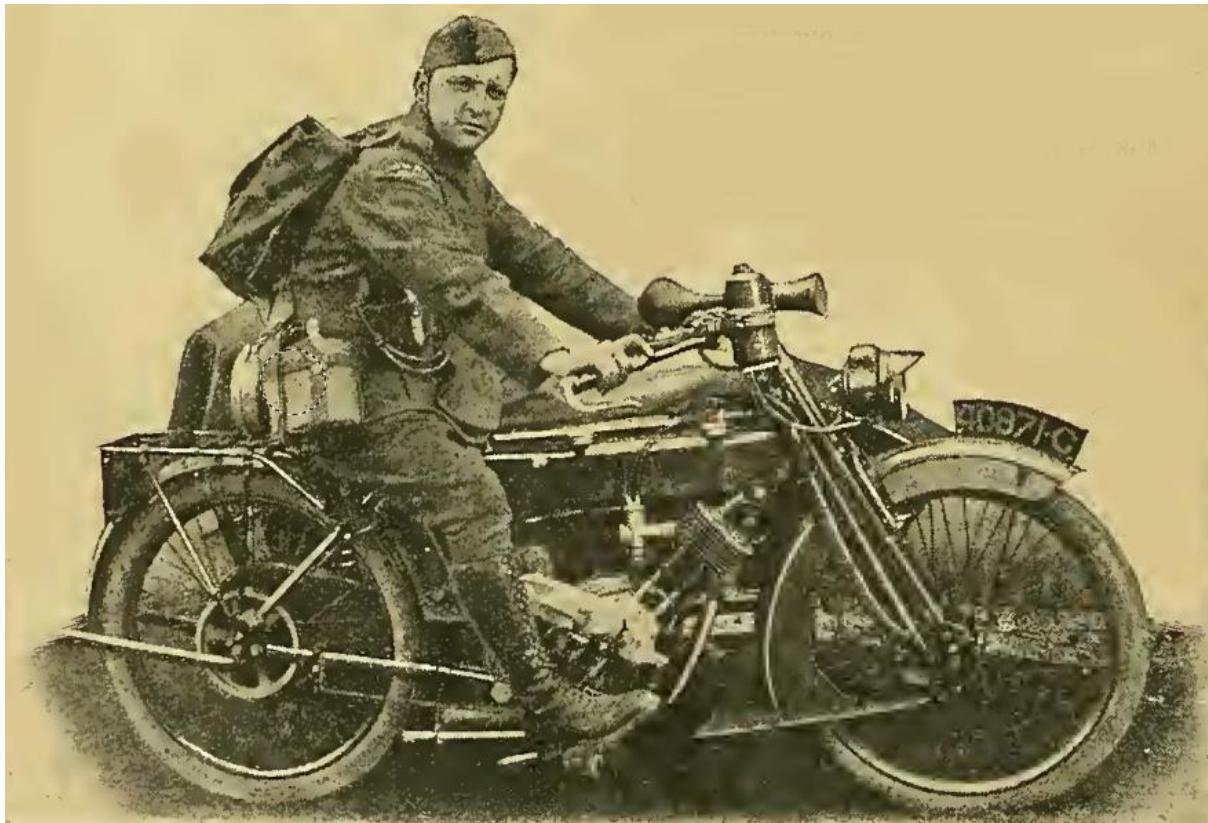


Bristol enthusiast E Hulse converted his 1912 AJS twin into a 'sociable': "I have made the sidecar up myself, which, as you can see, has wheel steering and pedal controls to clutch and brake...strangely enough, the engine seems livelier with the sidecar than it was before. Both chassis and body, also the sidecar wheel, are sprung, the body on three coil springs under seat."

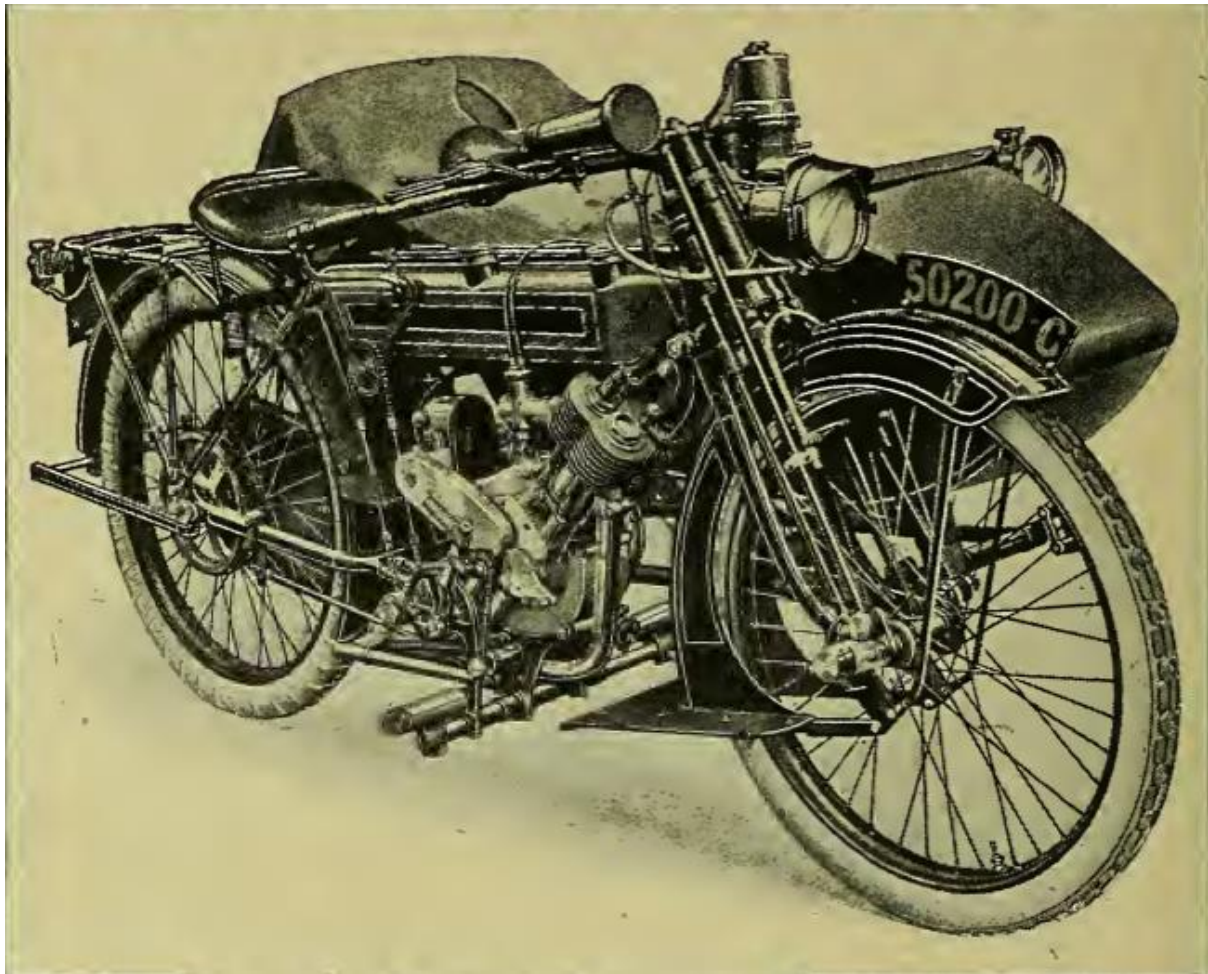
"DERIDED IN PEACE TIME the motor cyclist and his machine to-day are probably the most popular unit in the British Army. So far from the requirements of British and Allied armies having been satisfied by the different factories in the matter of motor cycles, it is pleasing to be able to record that at this moment a number of new factories have been pressed into the services of the Government, and are now busily engaged in the production of hundreds of new motor cycles."

"THE DEMAND FOR GENERAL service men in the combatant sections of the Army is such that hundreds of men who enlisted in the Motor Transport service of the Army Service Corps are being transferred to infantry battalions...much dissatisfaction has existed for a long time past that young able-bodied single men should be retained in 'safe' jobs, when thousands of married men with family responsibilities are fighting with the bayonet...Such is the feeling of the country

that the War Cabinet will have unanimous support in any action they may take to find sufficient reserves to maintain our combatant forces at full strength.”

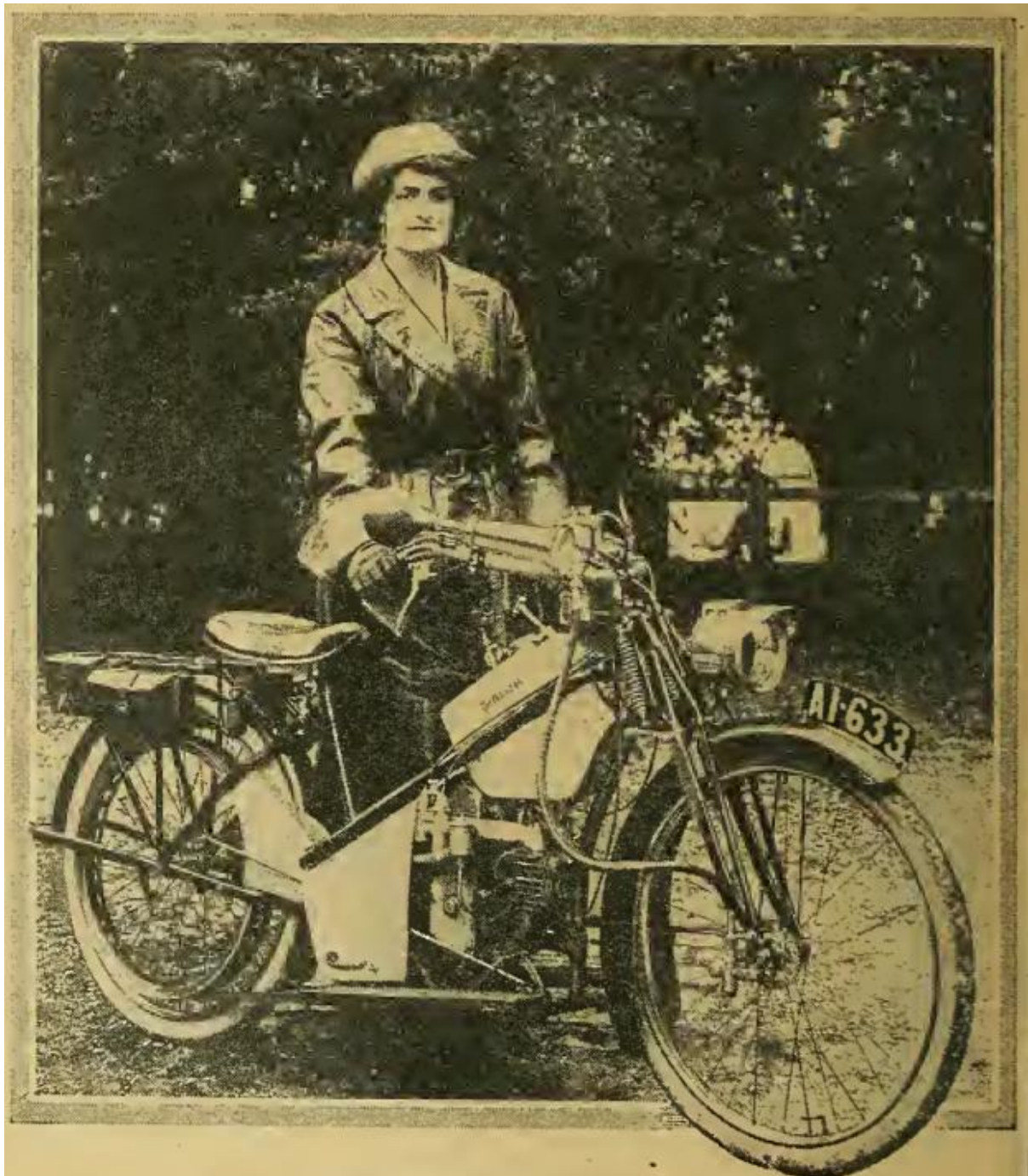


“The grumblers at the pot-holes in England ought to see the roads out here since the frost. They have turned completely over, and the chalk that is usually found a foot underneath has now climbed to the surface, and lies in big lumps, making it almost impossible to ride. The way the P&M sticks it is marvellous, and the tales I could tell you of what it has cheerfully done would make a good many other bicycles I could mention shake to pieces with fright, and get a Blighty touch the first journey...It seems wonderful to me that motor bicycles stand up at all on these roads, as the holes in places are at least a foot and a half deep, but they don't frighten the P&M; it just bumps in, jumps out, and away we go.”



Not every P&M was in RFC uniform.

“A GOOD SHIP LOST: It is always sad to hear of a good ship being sent to the bottom, and it is with great regret that we learned last week that HMS *Ben-my-chree*, the seaplane carrier, was sunk by gunfire in Kastelorizo Harbour, Asia Minor. Commander CR Samson, RN, DSO, the pioneer sea- plane flier of the British Navy, was in command. Before the war *Ben-my-chree* was the crack ship of the Isle of Man Steam Packet Co’s fleet, and carried many hundreds of motor cyclists and their machines to participate in or view the Tourist Trophy races.” However, one of the *Ben-my-chree*’s stablemates managed to even the score. The *Mona’s Queen* was near the mouth of the River Seine when the pilot spotted a torpedo track headng straight for it. Not only did the unarmed paddle steamer manage to avoid the torpedo; it went on to ram the German submarine and sink it.



“The Heroine of Pervyse: Baroness de Serclaes, the heroic Englishwoman who, with Miss Marie Chisholm, was decorated by King Albert for her bravery in the great retreat. These ladies are now Chevaliers, and entitled to military salute. For months they lived in a cellar at Pervyse, where they did marvellous first aid work in trenches. Baroness de Serclaes is a keen motor cyclist, her mount being a lady’s model Douglas.”

“THE CHEERY SIDE: We have received many bitter comments from readers on the stopping of petrol supplies for private motorists, but, disappointing though it may be, we must endeavour to look on the just and cheery side. If the war is to be prosecuted more vigorously and the danger of shortage in the Army avoided by these precautionary measures, we must accept the inevitable with a spirit of patriotism.”

“A GREAT ENGLISHMAN: It is not generally known that we owe the discovery of aluminium, alloy steel, benzole, and the magneto to an English-man—that extraordinary genius Michael Faraday. An interesting fact is that to all intents and purposes the first electro-magnetic machine made on a commercial basis and founded on Faraday’s experiments of 1831 is the same as the magneto on the Ford car. Faraday discovered benzole in 1824, but, just as it has been with the magneto and tungsten steel, foreigners profited by the discovery. We know only too well how we have been exploited by the Germans in respect of other commodities that were the invention of Britishers.”

AUSTRALIAN ACES ED FERGUSON and Jack booth had been going head to head for some time when Booth, who had already set one- and five-mile records at 84 and 76mph, rode his Indian over a mile to claim a record at 103mph. The Adelaide Mail reporter was clearly impressed: “Booth was cool, confident and calculating. He knew what was in his machine and meant to have it out. With set face, tightly clutched handlebars and slightly advanced form, the rider pressed his machine forward like a shot from a gun, leaving behind considerable dust and blue smoke from the exhaust. He is Australia’s Indian Speed King.” Ferguson was unable to beat that but went on to become South Australia’s most prolific road racer, winning the gruelling annual 200-mile epic on Yorke Peninsula.



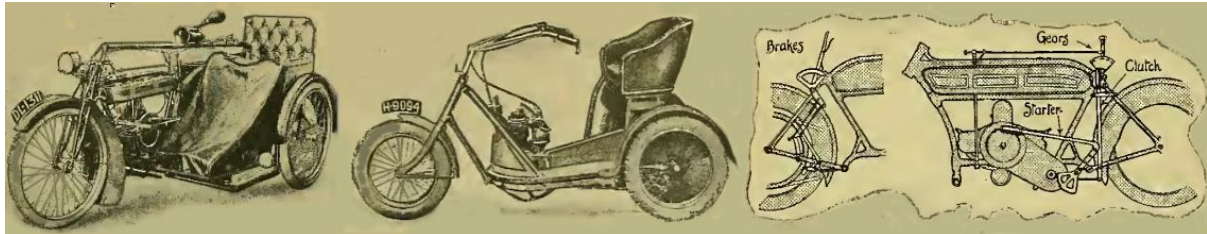
Jack Booth—"Australia's

Indian Speed King".

THIS STORY ILLUSTRATES how hard petrol rationing was biting—but at least it gave a sub editor a chance to use a great headline: "The Spirit of the Deceased: A correspondent writes to know whether he is legally permitted to use his deceased uncle's petrol permit." This is a point which we feel the deceased uncle should have made quite clear by his will, but we sincerely hope that the matter will not lead to serious family dissension."

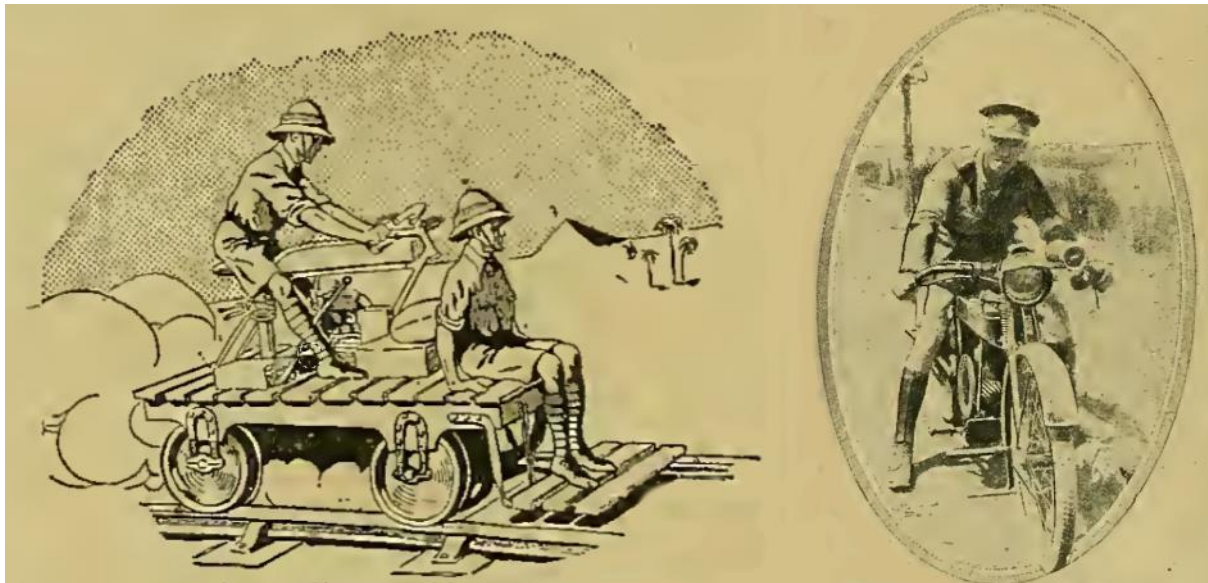
"THE FLOOD OF MAIMED VETERANS in search of powered transport made the discussions about granting licences to the deaf seem somewhat trivial. The industry was swift to respond, with everything from electrically and petrol powered 'bath chairs' to modified motor cycles and combos. "Brains are already at work evolving ideas to benefit these warriors who are probably at the moment nursing a healing limb and mournfully pondering on the good old days they have had in the saddle, the likes of which they think will never be again. To the lay mind the idea of a

man with one leg, or one arm, or a limb slightly paralysed, or even a deaf man having control of a motor vehicle, is the height of folly. But it is not likely that legislation will be brought about, as some people imagine, to prevent driving licences being issued freely to reasonably competent men. After all, the percentage of accidents due to men who are lame or otherwise incapacitated is very small indeed. Now that devices are being perfected by which badly maimed men may be independent of help in their endeavours to get about the country, it would be hard indeed to deny them that pleasure.”



Vehicles for disabled veterans (from the left): Converted sidecar outfit by Messrs Witham; 2¾hp Armstrong trike; control arrangements of the Witham outfit.

AMID MANY TALES FROM despatch riders came a yarn from Cpl MP Bowie, who reported, “We had been training hard for three months...very little was done for a month except parading with full equipment...one of the draft came bounding into the hut and said, ‘Boys, we’re off at four!’ We were given final instructions, ammunition, etc, and last of all a sheet, foolscap size, entitled How to Prevent Frostbite...We arrived in Alexandria after a nine days’ voyage...we worked there for about three months, and up till then I was riding my original Douglas, which never let me down once...I got an order to report for duty at a place about three hundred miles away. This brought me into the warmest part of Egypt, and it was no joke working in a temperature of 120° in the shade. ...I was to be stationed right in the middle of Nowhere, about 550 miles from the base...I had a Triumph here, and felt the benefit of the clutch, kick-starter and three gears, as the country over which we were travelling was exceedingly rough and very hilly in places...I was for some time on a railway trolley with a 4hp Triumph engine...we had a two-days’ storm which washed the ‘roads’ away. Never in all my travels had I seen such mud, and I have yet to find the tyre which is non-skid in it. In less than half a mile your front wheel stopped, clogged up with the mud, and it is then you begin to think that there is really something in the plea for greater mudguard clearance...but we RE DRs had to stick it, there being no alternative, and so we kept up the reputation of the ‘Houghton Regis Mud Pluggers’.”



Cpl Bowie drew the 4hp Triumph powered railway trolley he rode across the desert. He is pictured aboard his beloved 2 $\frac{3}{4}$ hp Duggie.

THE *MELBOURNE ARGUS* reported that soon after the outbreak of war “Americans awoke to the golden opportunity for trade domination which the pre-occupation of Europe presented...Among other schemes for expansion was the creation of the American International Corporation, which has a capital of £10,000,000, and is under the direct observation of the Rockefeller group of banks. The object of this institution is to enable long-credit to be given to foreign customers for American goods, the nature of such business being beyond the scope of the ordinary banking system...Australia is buying American merchandise by the shipload, while the Commonwealth treasury is clamouring for money to carry on the war...of motor cycles, the figures show £105,461 worth as compared with £6,088 for the calendar year 1913.”

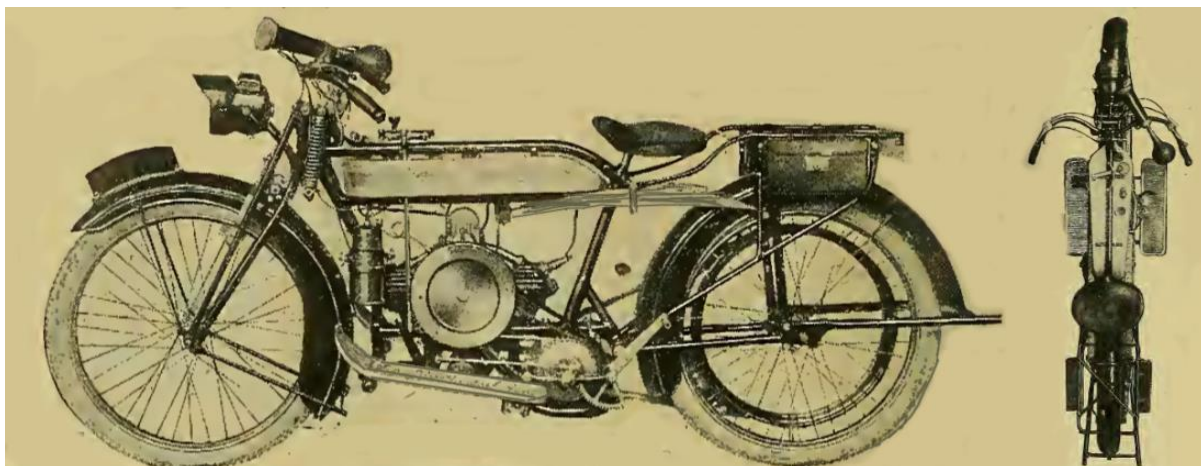
MAGNETIC TRANSMISSIONS: A well-known journalist-engineer informs us that he has recently been studying the question of magnetic transmissions for motor cycles, but he concludes that all present systems involve too much weight to offer the least degree of promise. Certainly the present-day gear box and clutch will be hard to rival for cheapness, lightness, efficiency and economy.”

“SOAP, WE ARE INFORMED, is excellent for stopping air leakage between the carburetter and the induction pipe...from the looks of one or two motor cyclists we see about Coventry, we would suggest that the same substance might advantageously be used for a more usual purpose.”

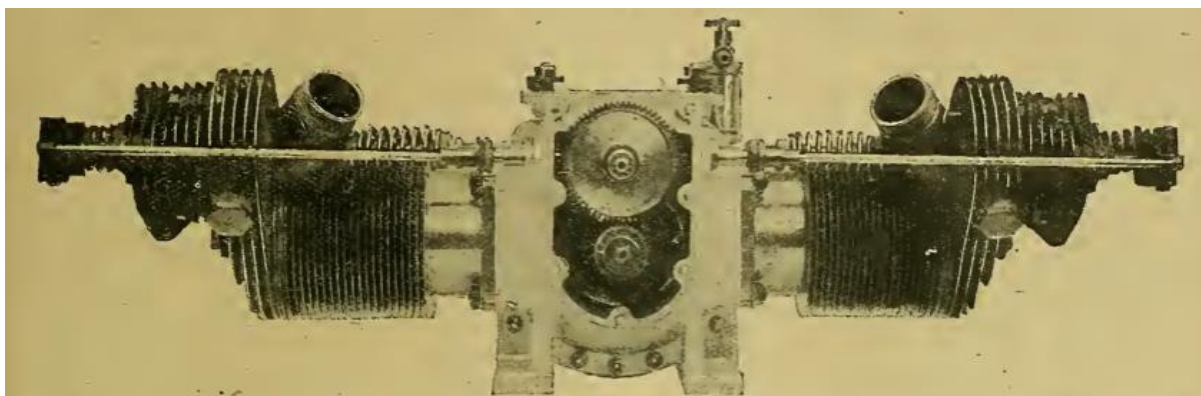


“South African motor cyclists have been enthusiastic in their endeavours to bring pleasure to those who have returned wounded and maimed from the war. Recently the East London Motor Cycle Club arranged an outing for wounded soldiers from German host and overseas...The foremost makes of motor cycles represented were British Ariel, Humber, Triumph, BSA, and Matchless.”

“A YEAR ON THE SPRING FRAME Douglas—What Douglas riders may expect after the war. Those flat twin enthusiasts whose Douglas experience is limited to the pre-war models have a rare treat in store for them as soon as the Hun gives us Best. I have always been a great admirer of the rigid-framed 2¾hp TT Douglas, the best combination of speed and nippiness with light weight which I have yet handled—and when I uncrated the post-war type of spring-framed Douglas, I was a little dismayed to find that the familiar low saddle position had been sacrificed, and that the weight had risen quite appreciably. Any hankering after the lost features rapidly evaporated when I took the road. The Douglas has always been a very fast machine for its power; but no sensible owner dare utilise its full paces on bad roads, because of its lightness. The new model is bound to be the lightest fully sprung machine on the road for some time to come, and it is so beautifully insulated from road shocks that it can be driven really hard even on our modern war-scarred highways. The long flat rear springs rule out all ordinary bumps, and damp down oscillations due to atrocious ruts until the rider feels nothing worse than a gentle rise and fall; they have never transmitted anything approaching a real jar to my spine except over broken stone on farm tracks. The front fork has been re- designed—rear springs always make manufacturers dissatisfied with the standard front forks; and both ends of the machine are now admirably sprung. Later models than mine have a pan seat providing the original low saddle position, plus a marked reduction in weight. The engine, to use an Americanism, has been ‘brisked up considerable’. Unless impressions deceive me, it is now capable of quite a few extra revs, and, in addition, it will throttle down more obediently. Nor has its designer sacrificed the ability to tug hard at low engine speeds on a high gear, a feature which is not too common on flat twins...Thanks to the kick-starter and low bottom ratio, the Douglas can get away from a standstill on really stupendous – gradients...The toolbags are capacious and the supply of special tools covers every conceivable job. Reliability even under rough usage is of a very high order. “



Latest design of the 2 $\frac{3}{4}$ hp spring frame Douglas, providing a low saddle position. "Aeroplane view of the spring frame Douglas. Observe the taper tank, position of pedals, pan seat, and cross pieces of carrier."



"Many people are under the impression that the flat twin~can be successful only when the cylinder dimensions are small. That well- known designer, Mr Granville E Bradshaw, does not, however, agree with this opinion, and with good reason, for he has made a new ABC cycle car engine to come within the 1,100 c.c. class." It displaced 1,094cc to be exact, weighed 65lb (the gearbox added 25lb) and developed 25hp at 3,000rpm.

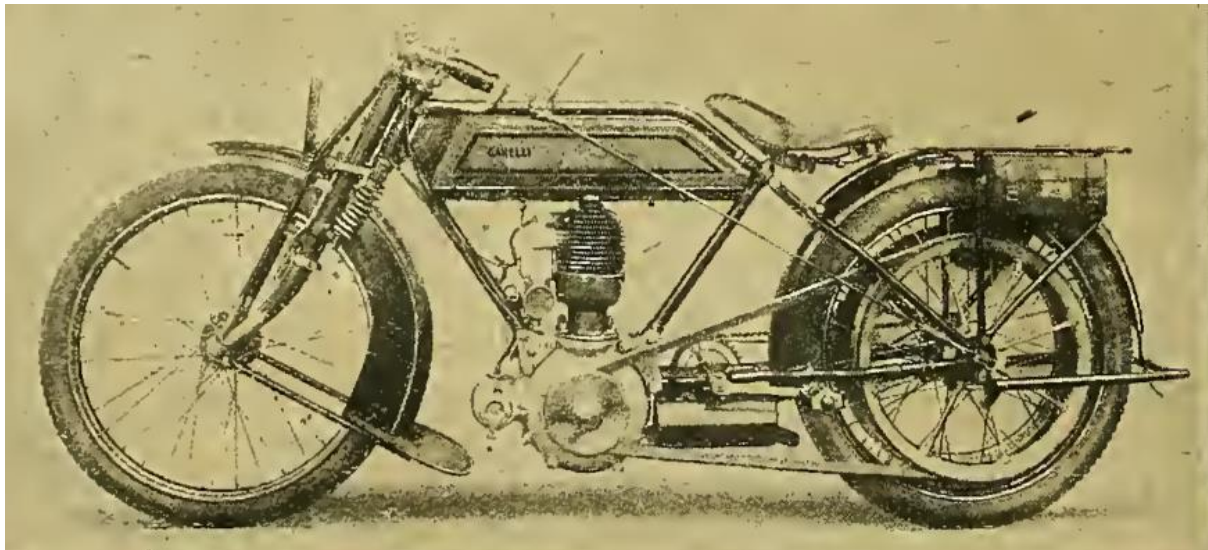
"AGE 14 TO-DAY! THIS ISSUE celebrates the fourteenth birthday of *The Motor Cycle*. The first issue of this journal appeared on March 31st, 1903, and for a time the price was 2d—the present figure. Since its advent *The Motor Cycle* has appeared every week without interruption, and, besides having helped to live down the strong prejudice which existed against motor cycles during the period of 1904-8, fostered and developed an industry which was subsequently to prove of inestimable value to the nation in this hour of need."

"FROM THE TREND OF AEROPLANE invention we are learning much as regards valves, cylinders, lubrication, and general efficiency. Some day we may have sidecars with frames on aeroplane lines—light, supple, yet strong. It is well to remember that the majority of the men who are to-day risking their lives in aeroplanes over the enemy's lines acquired their love of mechanics from the motor cycle. Our airmen of to-day are the motor cyclists of yesterday, and thus the motor cycle and the aeroplane move on together."

"MOUNTS FOR THE RFC: The RFC are now taking other machines in addition to the P&M, which has rendered magnificent service hitherto. It must not be thought, however, that the number of P&Ms supplied to the RFC is to be in any way reduced."

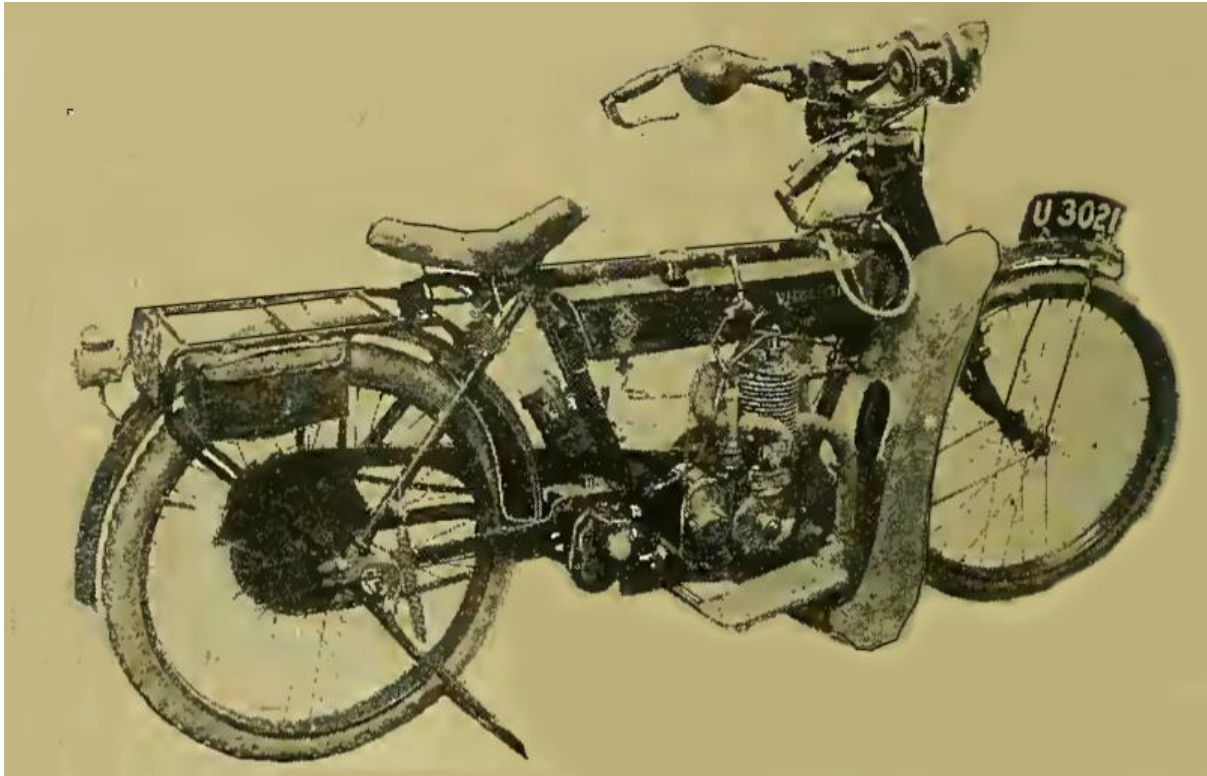
“AMERICAN MACHINES: The power units of some of the new American two-strokes are admittedly neat. The system of casting the gearbox in unit with the engine base, so popular in the States, is rather taking.”

“A WINDFALL FOR CLARE: Under the above heading *The Irish Cyclist and Motor Cyclist* reports, ‘A very large quantity of petrol was recently washed ashore on the Co Clare coast, and was sold by the authorities to a local merchant at about 8d per gallon. In view of the present price of petrol, it seems rather an extraordinary thing that it should have been given away at this remarkable figure.’ The local merchant may discover on opening them that they contain quite a high percentage of salt water, which, may necessitate selling the stock as a ‘heavy fuel’”



“A neat Italian two-stroke twin: An experimental machine built by Ing Garelli, of Turin. The engine is a side-by-side twin, with the magneto enclosed in an extension of the crank case. It will be observed that the gear in the hub is a Sturmey-Archer and many other fitments are British.”

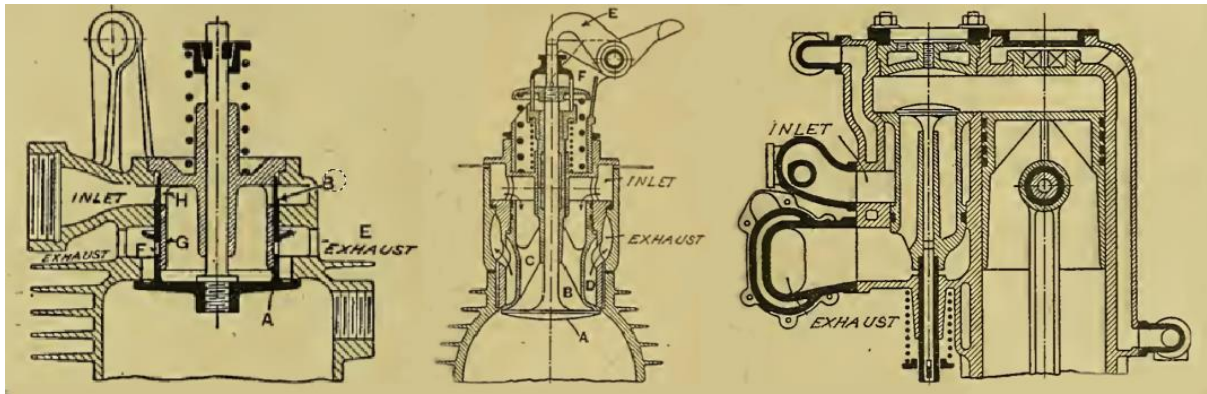
“BRITISH-MADE MOTOR CYCLES are supreme the world over. It was Britishers who developed and perfected the motor cycle in 1903-9, and who set the fashion to the world. At the present time, owing to restricted output due to the war, home-produced motor cycles are commanding fabulous prices in countries Overseas, premiums being offered in almost every case. Seldom a motor cycle can be found in a showroom, eager buyers snapping up the machines immediately on arrival. The supremacy of British motor cycles must be maintained after the war, and on account of the excellent name held by English-made motor cycles in the matters of finish, efficiency, and longevity, the markets are full of eager buyers. To satisfy the demand outputs must be increased, desirable features of an Overseas mount introduced, and an improved system of distribution arranged, otherwise cute American manufacturers will extend the strong hold they have already made in countries where British motor cycles have hitherto predominated.”



The rider of a 2¼hp Velocette two-stroke reported that it did 3,000mpg of oil and a commendable 154mpg of petrol despite being used on repeated short winter runs when it never had a chance to warm up. He concluded: “It has proved absolutely reliable under really adverse conditions, runs exceedingly smoothly, and...for comfortable riding, reliability, and particularly economy, I have not as yet come across its equal.”

“THE MINISTRY OF MUNITIONS has written to all known users of carbide in bulk drawing their attention to the urgent necessity of exercising the utmost economy in the use of calcium carbide. It is suggested that every opportunity should be taken to utilise substitutes, whether for use as an illuminant or for oxy-acetylene welding, ‘as it is only by such means that the serious shortage threatened can be averted.’”

“HOME-PRODUCED SUBSTITUTES: Recent observations in these pages have drawn attention to the fact that the new ban on petrol substitutes hits those substitutes produced in the British Isles just as hard as it hits those coming from abroad and occupying valuable tonnage. It has been pointed out that the possibilities of developing the shale oil industry in the North are enormous, and shale oil (Scotch paraffin) is among the best of the substitutes. The ban should be on imported oils only, and thus, while fully accomplishing its object, it would further tend to develop a most valuable home industry.”



The Motor Cycle reviewed the history of a forgotten byway of four-stroke engine technology—combined inlet and exhaust valve. From left, the Esnault-Pelterie valve, Pipe concentric valve and Parsons combined valve.

“A DAILY WAIL—’NO MORE JOY RIDING!’ *The Daily Mail*, May 1st, contains a passage bearing the above heading, and the sub-title, ‘The Motorist’s Farewell to the Road’. ‘This is a sad May Day for motorists,’ says the paragraph. ‘The new petrol restrictions come into operation to-day; petrol will henceforth be unobtainable for private and pleasure motorists...The rake of the road, the assertive motor cycle with its sidecar, came out on Sunday for its last jaunt until an unknown day.’ How sad! But we recollect that, about fourteen years ago, our worthy contemporary attempted a prophecy of another nature—the early death of the motor cycle. Yet the assertive motor cycle has had the audacity to live on, affording not only the cheapest means of travel, but proving invaluable as an instrument of war.”



“Danish motor cyclists on the ice and on the road; others have shared in the exhilaration of a spin with a motor cycle by attaching sledges to the machines. All, by the way, are of American manufacture...After the war, no doubt British manufacturers will endeavour to extend their sales of motor cycles in Scandinavia as well as Russia and other countries.”

“THE GET-YOU-HOME SCHEME: It has now been decided that the benefits of the Royal Automobile Club ” ‘Get-you-home’ scheme shall be extended to motor cyclists who are town and country members of the Auto Cycle Union, and therefore associate members of the Royal Automobile Club. This scheme affords prompt assistance to the member who is unfortunate enough to be stranded on the roadside by the breakdown or disablement of his machine. It provides for the conveyance of the member and his passenger to his home or destination, if

within twenty miles, or to the nearest convenient railway station, or, if possible, to convey or tow the machine and driver to his home, if within ten miles.”

“OUR LATEST ALLY: America having joined the Allies, no longer will the products of that country be regarded as of ‘foreign’ origin. Special tariffs are expected among the nations of the Entente, after the war, and America will now be placed on the same footing and her goods subject to preferential treatment.”

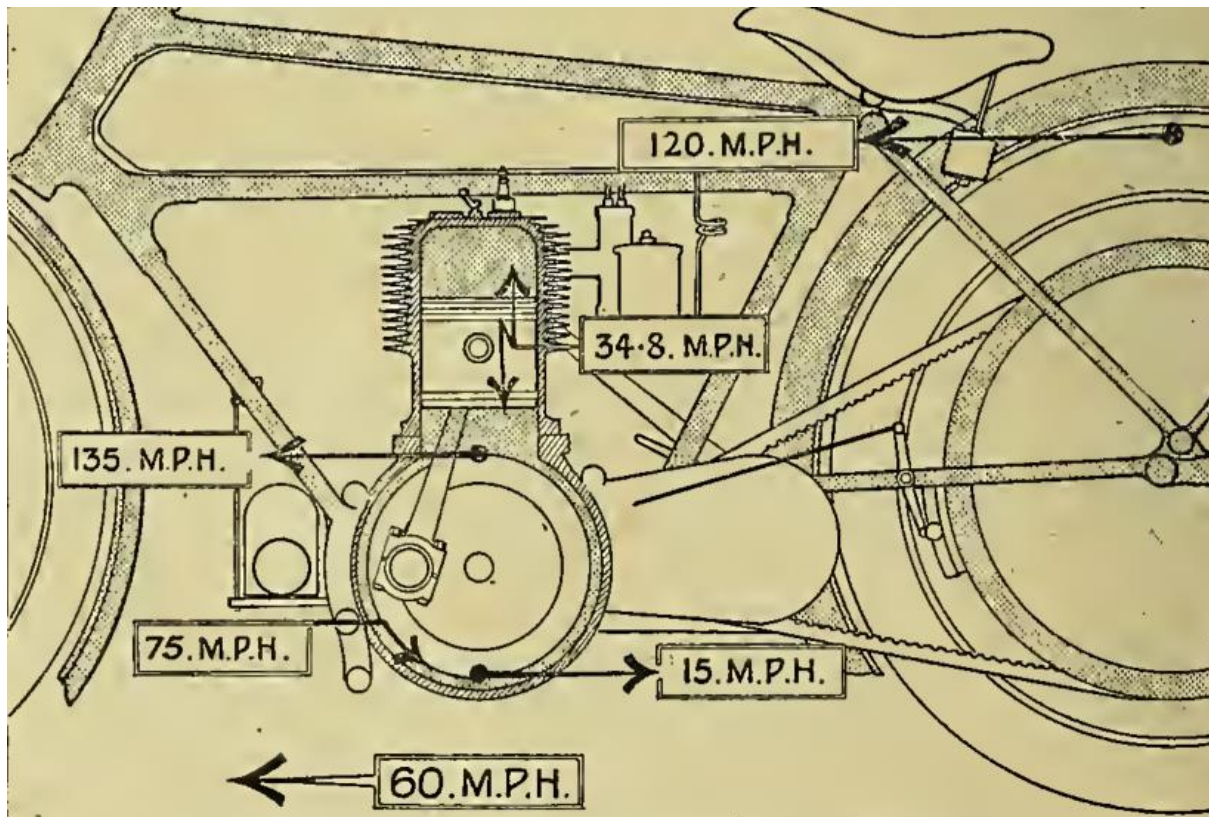
THE AMERICANS HAD PLANS to organise volunteer military motor cycle companies throughout the nation. The name chosen for the volunteer riders was ‘The Motor Cycle Minute Men of America’.



“America enters the arena: A Canadian soldier salutes the American Stars and Stripes flying on the Harley-Davidson by the side of the Union Jack.”

HERE’S A PARAGRAPH FROM IXION that needs no comment: “Dry roads again at last. Overhead a sun that is warm without being sultry. Underneath me a perfectly tuned spring frame 3½hp. In my pocket a pink permit for enough fuel to see me through the next six months. Ahead of me one of the finest speed stretches in England, followed by some sporting hills and some gorgeous scenery. Inside me the consciousness that the journey is on national service. Then a whirring above, and one of our hideous little RNAS ‘blimps’ fusses past. Submarines, torpedoes, the blood-soaked fields of Flanders, and a thousand nameless horrors loom up in the mind. Memory recalls good men and true who rode that route with me four brief years ago, and who will not ride again. For the present generation motor cycling can never again be all it used to be,

and some of us will hardly have the heart to face another trial or Tourist Trophy. We shall miss more old faces than we shall welcome; and those whom we shall welcome may not fully atone for the absence of those we shall miss.”



Have you ever wondered how fast a piston travels? Or a flywheel? If your bike is a 3½hp 500cc single doing 60mph at 3,360rpm this diagram is for you.

“*THE MOTOR IN AUSTRALIA* seems to be quite favourably impressed on the appearance over there of that weird little American production, the motor ‘scooter’. In this little machine, by the way, the magneto is contained in the flywheel—a system we have advocated for lightweights.”

IN THE USA HARLEY RIDER H Parsons claimed a record after covering 200 miles of open road in 200 minutes, including 7min 21sec over a 10-mile stretch; an average of 81.5mph.

HARLEY DAVIDSON CLAIMED a world record when factory riders Ray Watkins and Ben Torres lapped the San Jose dirt track for seven hours on a standard 8hp twin to cover 346 miles (49mph). The previous seven-hour record, of 334 miles, was set on a board track.

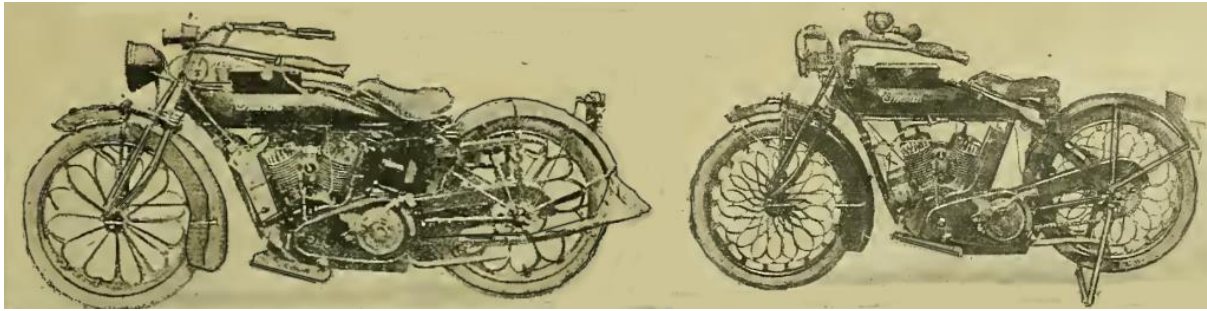


Ray Watkins

and Ben Torres covered 346 miles in seven hours.

“A REMARKABLE feat of fast riding and endurance was recently put up on the Los Angeles track by a Harley-Davidson rider, Allen Bedell. Starting at six o’clock in the evening, Bedell set out with the object of breaking the 24 hours’ world’s record, and, though the night was foggy, he managed to maintain a speed of 46mph throughout the darkness. At break of day this speed was quickly increased, and the full 24 hours was run out without incidents—the enormous distance of 1,153½ miles being covered. Bedell is stated to have been astride an ordinary touring machine, which makes his feat all the more remarkable. He has beaten the previous 24 hours’ record—which was established by Baker, in Australia, on an Indian—by 125 miles, and the 1,000 miles record by 21m.”

“ALAN T BEDELL, a well-known American rider, rode across the continent on a 1917 four-cylinder Henderson in 7 days 16 hours and 16 minutes, carrying a military message from Los Angeles, California to General Bell at Governor’s Island, incidentally reducing the Transcontinental record by 3 days 18 hours 54 minutes. Rough and trackless country was negotiated, yet Bedell managed to maintain the extraordinary daily mileage of 438. No mechanical troubles were experienced, and the big four-cylinder finished the trip ticking over perfectly sweetly. And yet one reads so often that the additional complication of the ‘four’ renders it impracticable.” And a Henderson combo covered 706 miles in 24 hours, beating the previous record by 122 miles.



“These spring wheels are light in appearance, yet capable of withstanding great strains. The type on the right was designed for American war motor cycles. Thirty per cent, of the double spokes may be shot away without putting the machine out of commission.”

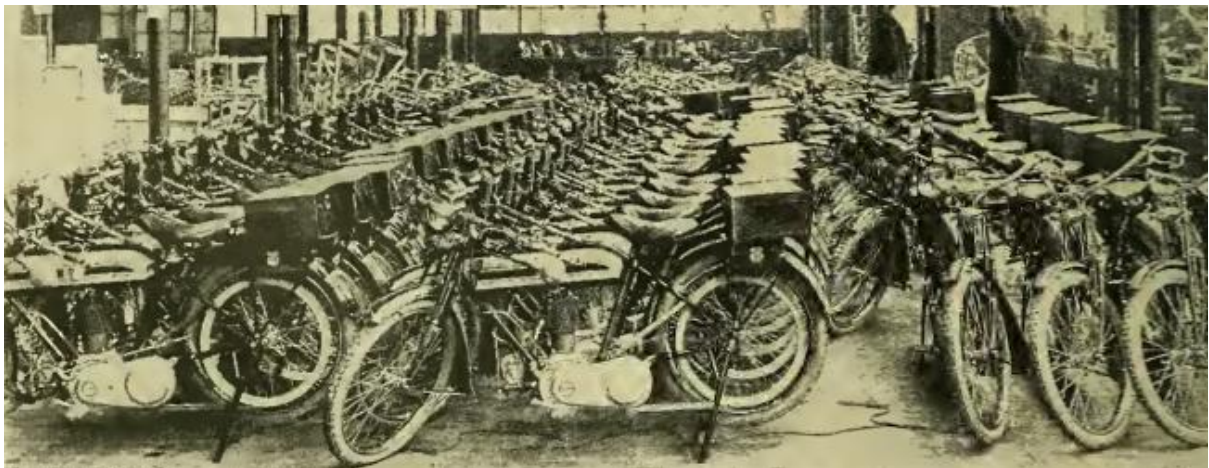
“WHICH TYPE OF CLUTCH? A few of the Sunbeam machines supplied to private riders since the outbreak of war have been fitted with dry-plate inset clutches. This was merely owing to a shortage of phosphor-bronze, and though these clutches have proved excellent in every respect, the Sunbeam manager still leans toward the standard pattern—phosphor-bronze to steel multi- wet-plate.”

“GAS LIGHTING: The coming of the tail lamp dealt a severe blow to gas lighting. When we had only one light to feed, the gas generator was tolerably satisfactory, but the necessity for complicated tubing has all but served the old and well tried system with its death warrant. ‘Convert the flywheel into a dynamo’ is the common cry of the day.”

“IF THE WAR LASTS long enough,” Ixion remarked, “I suppose we shall be seeing some American DRs in France, and it will be interesting to see if their 7hp spring frames with 3in tyres relish knee-deep mud and shell-holes better than our smaller mounts; the riders ought to be good enough for anything. My latest American exchanges contain pictures and stories of what is evidently ‘some’ hill-climb. Tired of racing up gradients which everybody can climb, the riders have unearthed a mighty sandhill, with an alleged grade averaging 50% (1 in 2) and stiffening towards the top to 70%. All the boys fitted some sort of caterpillar track to their back wheels, and none of them reached the summit. Your performance is recorded by the number of feet above sea level you attain before your front wheel tips over backwards by gravity and hits you on the nose, unless you are deft enough to unsaddle when you see it lifting. Firemen armed with jumping-sheets are stationed at intervals along the course, and save you as you fall backwards off the hill, etc, etc.”



"A consignment of BSA motor cycles ready for despatch to France. The machines are of the standard type, 4 $\frac{1}{4}$ hp, with three-speed, chain-cum-belt drive."



"War model motor cycles: Part of a batch of 150 WD Triumphs ready for despatching to the various zones of war. The whole of the production of motor cycles by several of our leading manufacturers is absorbed by the Allied Armies."



"A consignment of Royal Ruby motor cycles ready for delivery. All the machines are of 8hp."

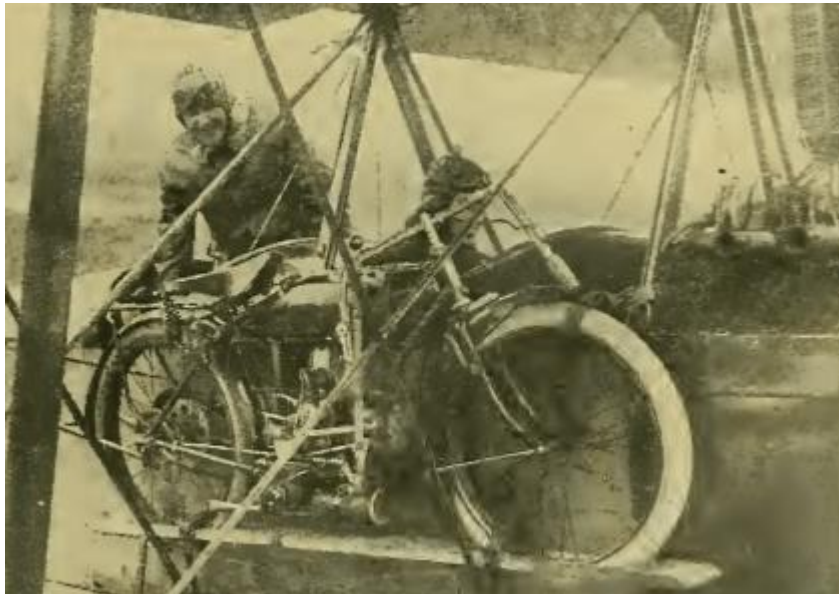


"A batch of Rudge-Multi motor cycles, built to the order of the Belgian Government for use in the army of our gallant Allies."

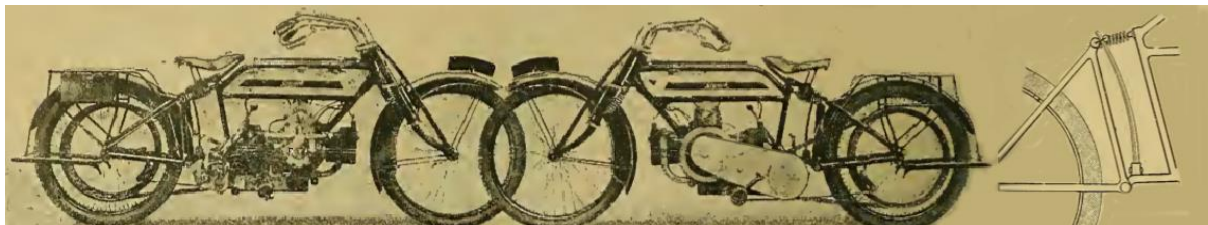
"THE PETROL COMMITTEE: Some very curious cases of renewed petrol permits are coming to light. Readers who have been refused a permit in reply to agonised letters setting out their claims and the indispensability of their work, have hit the bull at a second discharge. After refusal, they send a purely formal letter, enclosing a cheque for the next six months' duty on such and such a number of gallons at so many gallons per month, and receive their renewal card within a post or two."

"WE ARE ALREADY FEELING OUR WAY towards a new era in motor cycling," Ixion wrote, "in so far that the lightweight of to-morrow promises all the speed and climbing power which seven riders out of ten demand. The remaining 30% of us will probably continue to expect a higher maximum speed and faster climbing than lightweights can provide for many a year to come; or, to be more precise, the rider who has a lot of use for a 40mph gait prefers it on a fairly high gear and modest throttle opening, and dislikes it on a low gear and liberal throttle...Fast work on a light machine is usually miserable for the rider, and almost always deleterious to the machine. We already possess reliable lightweights, fast lightweights, and hill-climbing lightweights; but we have never had a genuinely comfortable lightweight...If we are not farsighted, our engine design will run ahead of our frame design; this has been the rule ever since motor cycles came along, and the failure has not done much harm, because motor cycles appealed to tough

people until recent days. To-day we are on the verge of producing motor cycles which will appeal to weaklings and old men and women, and the most perilous snag in our road is road vibration. A feather-weight spring frame will soon stand out in high relief as the industry's main requirement."



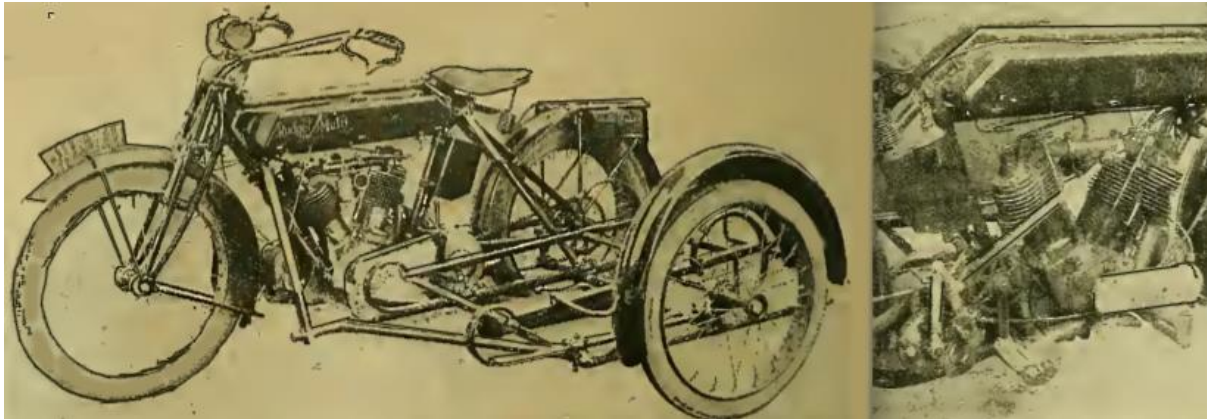
"The aeroplane and motor cycle are proved absolutely indispensable in the present war, but up to the present they have not been used in conjunction in the intimate manner illustrated by the photograph. One advantage of this arrangement would be in case the aeroplane met with mechanical trouble and was forced to descend. The airman or his assistant could then quickly detach the motor cycle (in this case an Indian flat twin) from its platform, mount it, and ride away for necessary supplies and assistance."



Brough fitted its 3½hp model with rear suspension that combined coil and leaf springs. At the same time the firm's trademark ohv layout was dropped in favor of sidevalve because of "a desire to produce a machine which calls for an absolute minimum of attention".

"THE WAR WOMEN: Female labour is not always the success it appears. A certain Midland agency and garage engaged a young lady assistant, but the connection was short, as the new acquisition persisted in turning up in breeches."

"IF WE HAVE SHAFT DRIVE on the rear spring motor cycle of to-morrow, we shall, apparently, be forced to adopt universal 'joints of the compact, metal-to-metal variety. This would appear, on the face of things, as a serious fly in the ointment, for universal joints are points of wear."



Determined not to rest indefinitely on the laurels of its single-cylinder, belt-drive Multi, Rudge developed a 9hp 998cc big twin as a sidecar hauler. It came with all-chain drive, Sturmey Archer three-speed transmission, and a four-gallon fuel tank.

“LADY MOTOR CYCLISTS who are anxious to do national work should apply to the Women’s Legion, Motor Section, Devonshire House, London, W. Candidates should ask for a form of application, on which rates of pay and particulars of service are stated. They will mostly be employed as despatch carriers. The first lady motor cyclist we have seen in RFC uniform was driving an RFC model P&M down Pall Mall on Thursday afternoon last.”



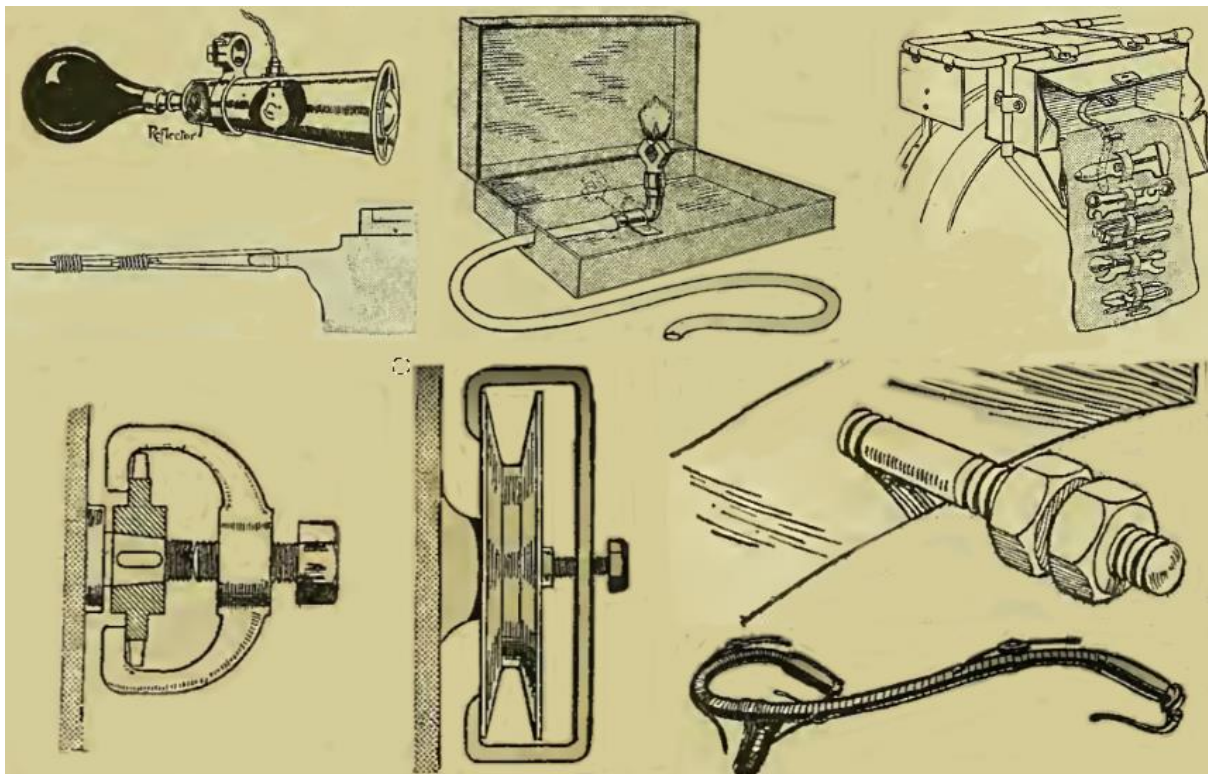
Women chauffeuses began working for the Army and, in this case, the RFC.

“TWO MEN ON A DOUGLAS were arrested in the East End on Thursday and remanded. The machine has been identified as being stolen in South London a few days ago. Another arrest was made at Grove Park, the machine and rider being detained. A correspondent was informed

that the police are now on the track of an expert, organised gang, who have been busy for several weeks and are believed to operate from a garage.”



“THE MODERN MACHINE seems a very incomplete affair, to judge by the many little things which an enthusiastic owner finds he can do to improve it. Not many machines exist exactly as they left the factory (plus grime). Practically every rider has altered some little detail, or added some more or less clever idea of his own. Often these additions are merely fads, having no particular advantage except in the eyes of the proud owner, but one continually comes across small improvements worthy of attention, generally spoken of as ‘gadgets’, a peculiar word of obscure origin.” *‘Ideas Useful and Ingenious’ was a regular feature in the Blue ‘Un, here’s a small selection...*



“Harold Hodson (a thirteen-year-old reader), of Warrington, Lanes, sends us an idea for combining the lamp and horn...A breakdown lamp: A small emergency light can easily be made from a flat tobacco tin. All that is necessary for use is to uncouple the head lamp generator tube and connect up this lamp, which will stand in any convenient position...It does not require much trouble to rivet one end of the tool roll to the bottom of the box, so that it will hang down over the carrier stays when in use...an effective temporary repair may be effected on a broken spoke by careful bending and tight binding with copper wire...Frequently it is found that the pulley or sprocket wheel is such a tight fit on the shaft that it is impossible to remove it by ordinary

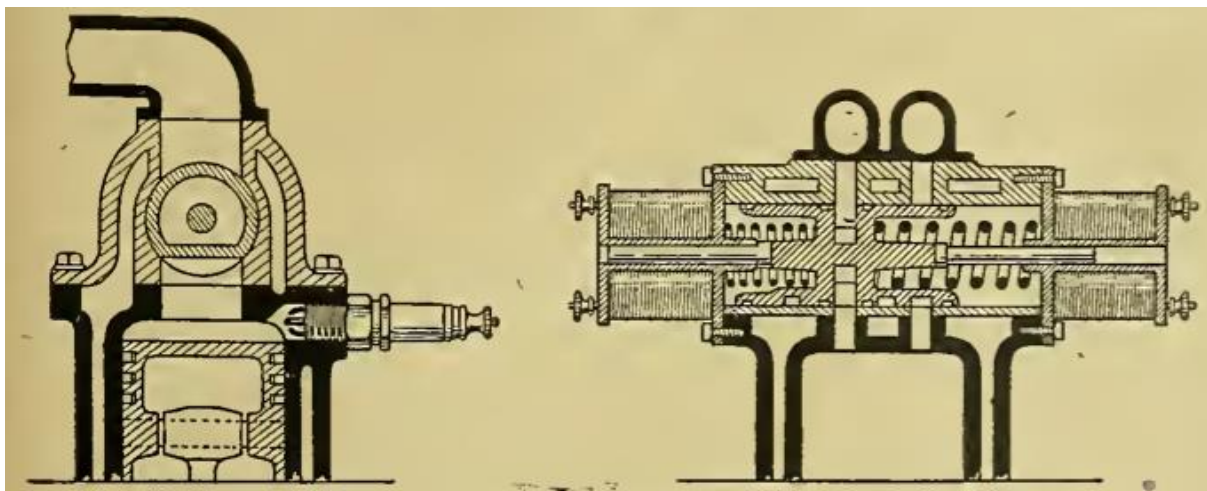
means. A simple tool can be made by heating a strip of iron of suitable thickness and bending it to the shape shown, and of such a size to accommodate the pulley...Occasionally difficulty is experienced in obtaining sufficient grip of a stud which requires screwing into a body. By locking two nuts on the thread, the spanner can be used to screw the stud quite securely...Handle-bar binding. TO many riders the handle-bar looks unfinished without a wrapping of insulating tape...A really good job can be made by obtaining an unplated bar, cleaning up with emery cloth, binding with ordinary electrician's insulating tape in a regular spiral lap from the centre to the grips, and then applying two coats of black enamel. The binding may include the Bowden cable covers, thus giving them a permanent fixing."

"THERE ARE NEARLY 70,000 MOTOR CYCLISTS in the British Army, according to Staff-Captain L Keene; 40,000 of these are despatch riders, the remaining 25,000 or 30,000 motor cyclists are in machine gun batteries, signal corps, and convoy service."

"THERE WAS A FOOLISH AND VEXATIOUS

prosecution at Bromley last week, a motor cyclist being summoned for riding a motor cycle with the rear number plate obscured, the police evidence being that the numbers were covered by the rider's coat tails. The Bench dismissed the absurd charge on payment of costs—4s."

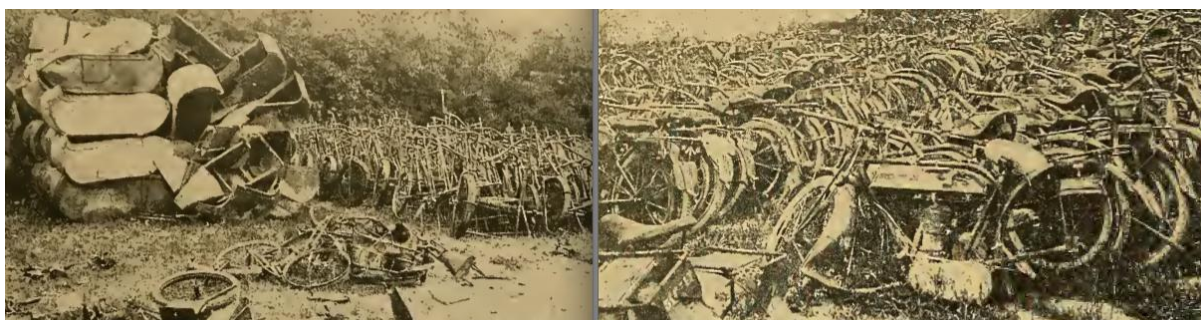
THE GENERAL DEPOT OF QUARTERMASTER Corps in Chicago invited tenders for 5,000 bikes and 5,000 outfits as the Yanks prepared to go 'over there'. The US magazine Motor Cycle Illustrated described this as "the most important ever made by the Federal Government in connection with its recognition of the motor cycle as a military adjunct".



An electrical whizzkid in Kansas, USA, came up with vales operated not by cams but by electromagnets. They had, it was claimed, been "successfully employed for such purposes on large engines (internal combustion) since about 1910".

THE MOTOR CYCLE REPORTED that since it launched its campaign for spring frames in 1915, it had published details of 93 designs.

DESCRIBED BY THE COPS AS "one of the worst and wickedest criminals in London", William Smith, alias John Craig, was sentenced to three years' penal servitude for stealing a motor cycle. By way of contrast "a youth who had served in the Naval Brigade at Antwerp" was "bound over and dismissed" for the theft of a Bradbury. He told the court that "he borrowed the machine for a trial run, but had a smash-up at Brighton, and not caring to return the machine damaged as it was, sold it for a few pounds".



The Motor Cycle visited a “hospital for war-worn motor cycles” in Kent and reported: “The greater portion of the motor cycles and side-cars had been sent to ‘Blighty’ after suffering severe accidents. The number damaged by the enemy was comparatively small...Not a single one of the machines we saw could be wheeled, much less driven, so serious was the damage they had suffered.” However, having described horrendous crash and shell damage the report concluded: “Quite ninety per cent of these war and weather-worn rusty derelicts, we were informed, would eventually be restored to a state almost like new.”

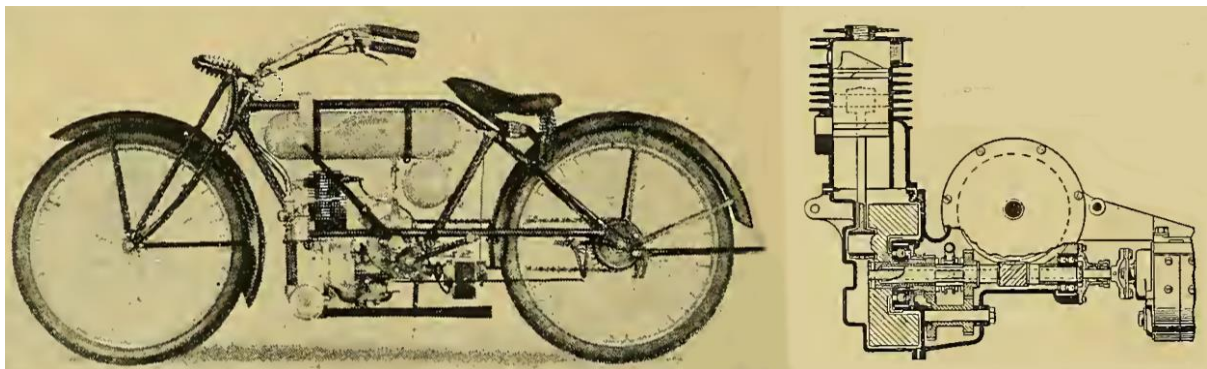
HAVING SEEN THE ‘ARRIVALS’ depot the man from *The Motor Cycle* was allowed into “another depot, which is probably the largest of its kind in England, if not in the world. To this place are sent all the new machines which are delivered to the Army, as well as those which pass through the repair works...we were taken by the CO to a railway siding at which there were being unloaded crate after crate of Douglas and Triumph motor bicycles, which are the two favourites in the Army, and in addition to these a few other makes were to be seen in the neighbourhood, such as Rudge, Clyno, Indian, and B.S.A. It will be remembered that when motor cyclists first enlisted under the voluntary scheme in 1914 they were told to present themselves with their machines, and in a good many cases these were taken over at valuation. Many of these are still surviving, as we noticed, carefully protected by tarpaulins, such non-military makes as Scott, James, Premier, Harley-Davidson, NUT, AJS, Humber, Thresher-JAP, Chater-Lea, New Hudson, Ariel, Bat-JAP, Bradbury, and Connaught...Altogether the stock of motor bicycles in this particular depot exceeds 2,000.”



Left: “Crated motor cycles being taken from the goods train to the shed. Right: “A convoy of Douglas sidecars ready to start for an Army Service Corps camp.”

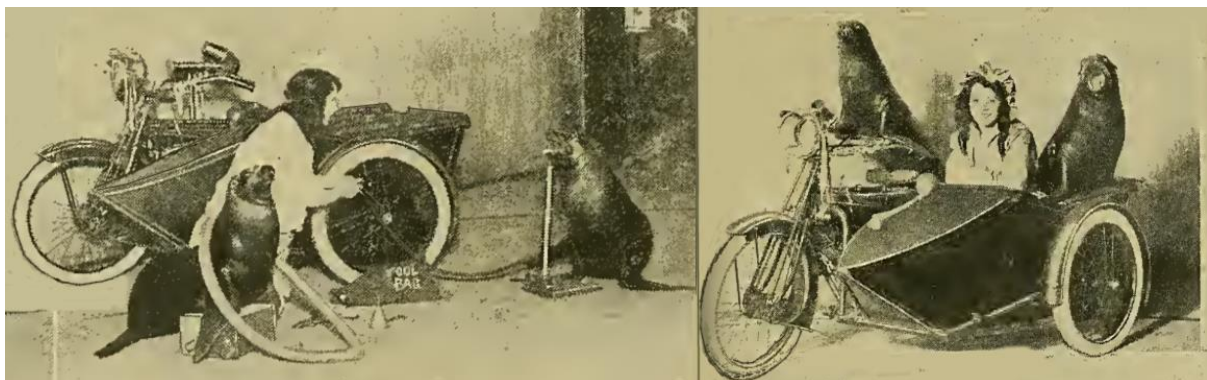
“UNTIL QUITE RECENTLY American manufacturers were somewhat behind the times with regard to the development of two-stroke lightweights, but there now appear on the American market one or two of these machines which are unquestionably worthy of notice. One which embodies several commendable European features, at the same time displaying distinct originality in layout, is the Cleveland. [It] embodies many bold points of design which cannot help but appeal to practical designers. The aim of the makers has been to produce a motor cycle in which the engine, gear box, magneto, etc, compose one unit, which can be removed bodily from the frame and replaced as such—a system which for some years past has received

the attention of British manufacturers. The power unit of the Cleveland is distinct from standard practice in that the flywheel is enclosed, while the crank pin takes the form of a boss protruding from the face of the flywheel and supported at one end only. The engine is set at right angles across the frame. The transmission is a compromise between shaft and chain drive, and while some of the advantages of the shaft drive are obtained, the difficulties entailed by the use of a long cardan shaft to the rear wheel, requiring special thrust bearings, etc, are removed by employing a low speed chain for the final drive. Though the neatness of the system is attractive, it would seem to us that the magneto occupies a very exposed position, while an inspection of the contact breaker would apparently necessitate the use of a mirror. The magneto control lever is situated under the saddle, which is not an accessible position. The frame is perhaps worthy of note. It will be observed that the spring forks embody Triumph principles, while the design of the main frame is such that the power unit, complete with its integral units, is merely suspended from two eye-pieces placed respectively at the lower apexes of the triangular frame structures. The makers claim that by this system...the machine is practically vibrationless...for some reason the British rider does not appear to have taken favourably to the integral unit system. Time will, however, probably see its further development."



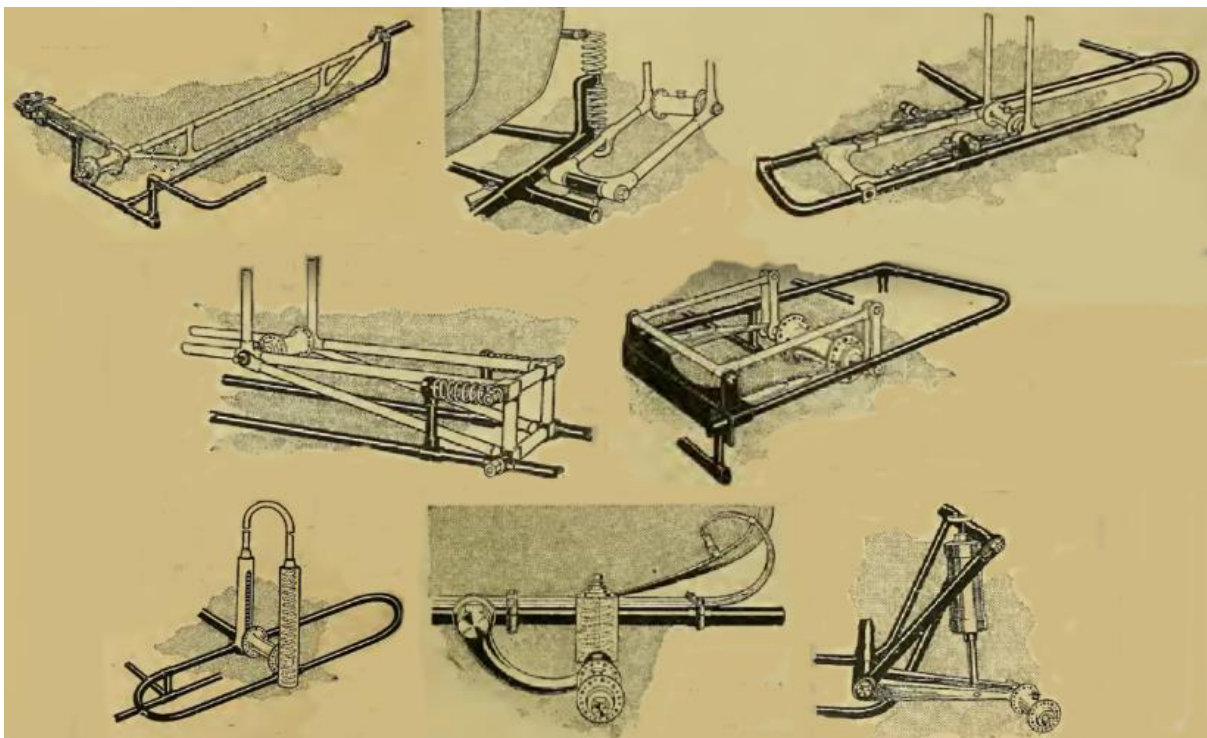
The Cleveland's unit-construction engine, gearbox and magneto could be removed 'in unit'.

"I CANNOT GET INTO THE proper mood for talking petrol to-day," Ixion admitted. "I am sitting in a garden of roses; I wear white flannels; the air is heavy with perfumes of the first summer flowers. Around us are maidens in cool white dresses. There is cider cup in a large bowl. How can I, and why should I, turn my thoughts to nasty greasy things like motor cycles, which distil burning heat and radiate foul smells?" "[We apologise for our contributor, and propose to make up his column with some paragraphs which we have in stock.—Ed.]



Music hall artiste Petite Nina was wowing audiences with a pair of sealions and a P&M combo: "At a signal, one will engage the clutch and steer the sidecar round the stage."

“JUDGING BY THE ILLUSTRATIONS of completed spring frame machines which have been published from time to time, the practice of omitting the saddle springs is on the increase. The seating arrangements usually consist of the moulded leather saddle shape attached direct to the cycle frame. This is a retrograde step, and, whilst no doubt of value during testing to enable the designer to ascertain the degree of efficiency of his springing device, for all practical purposes it is the mechanical equivalent of + x -y. The demand for spring frames has arisen owing to the increasingly bad condition of our main roads and the necessity of further insulating the rider from such shocks as are transmitted by the rear wheel. Rear springing of the frame may result in the absorption of road shocks, but the absence of saddle springs renders the rider liable to the higher frequency engine and transmission vibrations, which are quite as dangerous in their effects on the human anatomy. In addition, he is robbed of his second line of defence against such jolts and jars as are not absorbed by the frame springs.”



From the first sidecars, in 1903, the bodies were sprung; with the arrival of rear suspension a growing number of sidecar manufacturers devised chassis suspension. The Blue 'Un's correspondent 'Chinook' reviewed some of the options (from top left): "The author's suggestion, whereby lateral rigidity of the sidecar wheel is assured"; Matchless, "sidecar wheel springing adds very little weight"; Douglas, "light leaf springs, pivoted centrally, and supporting the wheel bracket on either side"; Bat, "tension coil springs"; Royal Ruby, "reduces unsprung weight to a minimum"; Millford, "the wheel is directly supported by coil springs"; Gloria, "well-tried sock absorber"; and Hercules, "embodying a variable shock absorber".

“ONCE AGAIN WE SET FORWARD in bold relief the demands of the Overseas rider, but it can no longer be said that the points demanded by riders abroad are entirely non-existent in British machines. The demands of warfare have done more in the direction of evolving the truly unisal motor cycle than could have been accomplished by half a decade of Overseas grumbles, freely aired by the press. Our spring frame campaign has been widely successful, and practically every manufacturer of note has now a spring frame design either undergoing test or on the drawing boards. In the direction of adequate mudguarding and the strengthening and stiffening of wheels, much, however, remains to be done, and there are numerous minor points, such as

revisions in hub design, the provision of sufficient kit-carrying space, and so on, which demand attention.”



“Mr Tom Silver, of the Egyptian Campaign, Nile Expedition, and Boer War, states the requirements of the Overseas rider from his own varied experiences as a motor cyclist abroad.”

“BEWARE THE MOTOR CYCLE THIEF! As nowadays the art of riding motor cycles is no longer the rare quality it was in the early days of the motor cycling movement, it is imperative, should motor cyclists not desire to run the risk of losing their treasured machines, that they should take the necessary precautions for their safety. Just recently there would appear to have broken out an epidemic of motor cycle stealings which is not confined to the London district, but is prevalent throughout the whole of the country. To prevent a machine being stolen from the streets the safest plan of all is, of course, to make it an inviolable rule never to leave it unattended. Where this is unavoidable some means of preventing it being ridden away except by the rightful owner should undoubtedly be adopted; there are various devices on the market having this object in view, amongst them being switch locks, and also strong chains and cables which can be passed through one of the wheels and round some rigid portion of the frame and padlocked. It is also advisable that all motor cyclists should make an entry in their pocket books of any peculiar marks and means of identifying their machines, especially of all the numbers they may find stamped on the engine or other parts of the transmission and frame. Those motor cyclists who neglect to protect their property will, in the words of the song, ‘have only themselves to blame’ if one day they find the machine they have left unattended in the street or not carefully locked up and protected at night conspicuous by its absence.”



“Swiss despatch riders mounted on MAG-engined Motosacoche machines. The Swiss Army has for a long period favoured this particular type, and for some time prior to the war had a highly developed motor cycle section.”

“A MACHINE GUN HAS OFTEN been likened to a motor cycle by reason of its complexity. The mechanism is just as interesting and attractive to a man of mechanical bent, and those readers who, with an eye to the future, may feel inclined to become acquainted with the mechanism of a machine gun, will find a new handbook just published by Messrs Iliffe and Sons on the ‘Hotchkiss Portable Machine Gun’ of considerable interest. The book is illustrated by line and half-tone blocks, and is priced at 1s.”

“A CORRESPONDENT WRITES US that his machine runs excellently on the stand, but will not run on the road. Then why not take a house in suburbia, and run it on the stand during Sunday afternoon so as to drown the noise of sundry gramophones and numerous newly-born infants?”



The Association

of British Motor and Allied Manufacturers was established as “a combination of British motor manufacturers” committed to producing vehicles that were 100% British.

“TO PREVENT EYE-GLASSES or goggles being dimmed by rain spots in wet weather a good tip is to treat them by rubbing on the glasses a solution consisting of a pinch of common table salt dissolved in glycerine, which prevents drops from forming and renders the glasses perfectly transparent. Unfortunately, glycerine is difficult to get at the present time.”

“THE ACU IS NOW ISSUING vouchers in connection with its ‘get you home’ scheme, which should be highly appreciated in these days of petrol shortage and of old crocks. The idea is that a member can, in the event of a breakdown, obtain assistance and secure conveyance to a railway station or to his destination—if it lies within a distance of twenty miles. No provision is made for the impostor who rides deliberately out into the country till his petrol gives out, on the strength of obtaining a gratis ride home at the expense of the Union...All four members of the clerical staff of the ACU, of military age, joined up at the outset of hostilities, and this 100% show of patriotism has had its sad sequel in 50% casualties.”

“THE GENERAL ASSEMBLY of the French Chambers of Commerce has expressed the hope that Great Britain, Japan, and Russia will adopt the metric system.”

“A MEMBER OF OUR STAFF recently under- took a 300 mile trip on an overhead valve flat twin—the latest production of the Brough factory. For fast touring and maintained high speeds this type of engine is almost a revelation, rivalled only by a good TT Scott.”

THE BOARD OF TRADE ordered: “No person shall use or consume, or cause or permit to be used or consumed, any motor spirit for the purpose of proceeding to or from any race meeting, whether for the whole or a part only of the journey.”



“More new uses for the

sidecar: A cinema operator busily filming a procession during the recent Baby Week. He has converted his AIS sidecar into a temporary grandstand.”

“DOZENS OF MOTOR CYCLISTS are attached to the Motor Section of the Coventry Special Constabulary, and a fine batch of men and machines were ranged up for the annual inspection on Gosford Green.”

“ACCORDING TO A DEFINITE STATEMENT made by the Petrol Controller within the past few days, only 10% of the petrol imported into this country is allocated to private owners, including doctors, veterinary surgeons, Government Inspectors of Munitions, Red Cross workers, and other workers of national importance.”

“A LADY MOTOR CYCLIST at Newport was recently charged at the police court with failing to stop her motor cycle when requested, and riding at a ‘reckless rate’ with a lady on the carrier. The defendant contended that one could not do much that was daring and reckless with a 2½p machine and a passenger on the back. A fine of 8s costs was imposed.”



“Of

course, motor cyclists took part in the occupation of Baghdad. No army is complete without the ubiquitous despatch rider. Judging from the dilapidated houses in the background, the City of ‘Arabian Nights’ received the attention of our gunners previous to the occupation. The mounts are a Triumph and an Ariel.”

HERE’S A TREAT: Two examples of Ixion at his finest. Neither will advance your knowledge of the history of motor cycling in a technical sense. But if you enjoy immersing yourself in motor cycling wisdom written by the maestro of motor cycle journalism you’ll sink into these monographs as you would into a warm bath after a hard winter’s ride.

“OLD CAMPAIGNER AS I AM NOW, I sometimes get the wind up about sideslip,” Ixion revealed. “The required conditions are a dark night, a poor lamp, an unknown road, and the brands of grease which limestone and oolite generate when they are about half dry. I peer into the gloom, I wonder whether I have taken a wrong turn, I drive timidly and jerkily finally, I realise that my back wheel is not adhering very tenaciously, that my front wheel will lie down sideways at slight provocation, that the road is extremely hard, that my overalls are new, that Gladys will not embrace me with her usual abandon if I am miry from head to foot, and that my knees, elbows, shoulders, and knuckles bear many old scars. In about five minutes after these cogitations are complete, my wrists lose their vice-like, masterful grip: the little U tubes behind my ears cease to register balance subconsciously as they should, and long-forgotten swearwords snarl unbidden through my clenched teeth as the bicycle takes charge. By this time I am awake to the situation. I change gear downwards: the smooth purr of the accelerating exhaust suggests that the back wheel is biting earnestly into the road: confidence returns, and I drive rather faster than before.”

FLAT TWINS.

"IXION" REPLIES TO A CRITIC.



"I MAY DISARM A CERTAIN AMOUNT of criticism by drawing attention to the value of exaggeration. It is commonly regarded with contempt or amusement. The lying angler and speedster, the enthusiast whose geese are all swans, the elderly relative who habitually adorns every tale, the journalist who works up a commonplace incident into a thrilling events—all alike indulge the same foible, consciously or unconsciously. The literally-minded moralist condemns. The excitable person with no sense of humour works himself up into an indignant passion for meticulous accuracy. The cynic coldly spirts forth his corrosive venom. The genial man of the world grins. Brown, who is accustomed to call a spade a spade, will have none of that paltering word 'exaggeration'. Good old-fashioned Anglo-Saxon is his forte: and if a mechanic in a hurry describes half an inch as three-eighths, righteous Brown has only one word for it—the word 'lie'. The value of exaggerations is twofold. First, the great British public is so confoundedly slow at the uptake that you cannot get an idea into their heads unless you isolate it, beat drums round it, turn million candle-power searchlights on it, catch as many people as you can by the scruff of the neck and rub their noses on it. Secondly, because we are constructed in this curious mould, we are provided with tutors, monitors, leaders, and prophets suffering from a huge lop-sided bias, which enables them to appreciate 99% of one aspect of a subject and practically to ignore all but 1% of the other aspect. For all which reasons it is my chiefest boast and glory that I am, under certain limitations, a naked and unashamed liar in the eyes of good old Brown and other folk of his kidney. A meticulously-minded reader in the ASC, MT, has been using my old comments as the Opposition in Parliament employ ancient speeches reported in Hansard against an unshakable Prime Minister. He has dug out, no doubt with commendable pains and accuracy, some weird and astounding claims of mine on behalf of the flat twin: He asserts that I said its birth had sounded the death knell of all rival types of motor cycle engine. I dare say I did. A very proper and useful thing to say. If I said it, I am proud of it. Quite untrue, of course, but most necessary. Where did the flat twin stand when war broke out? Very popular in the 350cc class. Not considered or dreamt of in any other size so far as 80% of the public were concerned. Where does it stand now? Everybody is talking of 'flat twins'. After the war most riders who can afford to choose, and want the best, will go thoroughly into their merits. What brought the change about? Well, 'Ixion's'—thank you, Brown, 'lies' have had not a little to do with it. If I was right, and the good flat twins are worthy to be set on a pinnacle alongside the vertical single and the V twin, my 'lies' will have hastened its canonisation; if it is not worthy, nobody will be a penny the worse, except poor 'Ixion', who will become a by-word, and may get the sack in addition. My 'BEF' correspondent sagely opines that I shall one day eat the vow I took in these columns never to ride another vertical single. Bless you, my dear sir, if I ever made that vow, which I really forget, I ate it long ago; I am hunting at this moment for a first-rate single. Am I repentant? Not a bit of it. I feel quite normal, thank you, except that I am rather amused. To show that when my 'lies' have done their work I can be perfectly fair, let me quote my correspondent's catalogue of the deadly sins to which the flat twin is heir. According to him this particular type of engine is invariably prone to the following weaknesses: (1.) Abnormal cylinder and piston wear. (2.) Worn, noisy, and insecure valve mechanism. (3.) Bent crankshafts. (4.) Loosened main bearings. In his opinion these defects may chiefly be traced to excessive rpm. Here's a fresh bone for the dogs to quarrel over. My own opinion is reserved for the nonce.

Perhaps my foregoing confession deserves to be balanced by a statement. 'BEF' suffers from a delusion common to many other readers of technical journals. He pictures a journalist as a needy, out-at-elbows individual, who wanders round Coventry or Portland Street begging for the loan of a machine, and who subsequently 'writes up' the machine in superlatives, with an eye to the future favours of the same sort. So he speaks of my 'lies' as being based on personal sampling of one type of machine, most probably a 'starred demonstration' mount. I don't know who invented Grub Street, but it dies uncommon hard. Let me assure him that I am honestly quite an opulent type of individual. I had a glass of port at dinner, and I am now smoking a cigar which isn't a Flor di Fiasco. I have several machines of my very own, and I spend several hours a week in writing diplomatic letters to eager makers who want to lend me machines which I have no wish even to see. My opinions of the flat twin may be foolish, as 'BEF' considers; or downright lies, as Brown would prefer to stigmatise them: or a judicious overstatement, planned to wake a sleepy public to the high merits of a newcomer, as I regard them. But in any case they are honest, and based on an enormous mileage distributed over many types and sizes, makes and years. The flat twin is not so new as many seem to think, *The Motor Cycle* was talking of it over ten years ago."



"I GOT UP FROM MY TABLE at eleven o'clock on the evening of the 6th of June, and, throwing on a Burberry and an old gas helmet, I strolled to the cowshed garage and jerked my motor cycle from its stand. A few seconds later the engine was barking healthily, and I was jolting over the wooden track which leads from our headquarters. It was an odd hour for motoring, and nothing but the most urgent business would have dragged me from my billet. But the attack on the lines of the enemy just south of the famous salient, though we knew it to be imminent, had come on all too quickly for my arrangements, and a forward telephone exchange, to be working by 'zero' was as yet unprepared. I had despatched a lorry-load of men and appliances, and, timing my own journey, I set out to meet them in the reinforced cellar of an old French farm. A day later I might have taken my lorry there in daylight, or in darkness I could have used the most powerful of head lamps with safety. But at the time the country I traversed was in full view of the enemy on the opposite ridge, and the use of a light of any description, apart from the fact that it was strictly forbidden, would have drawn shell fire on the roads as I left them, harmless perhaps to myself, but very much the opposite to the slow-moving limbers and transport that rattled their way to the infantry in the front line trenches. The actual roads were unknown to me, for previous visits to the farm had been made across country on foot; but a study of the map left me in no doubt of my direction. I was all unprepared, however, for the ghastly state of riding that prevailed when I had mounted the crest that was our boundary for daylight motor cycling. As the crow flies, my destination was scarcely two miles from the ridge I have mentioned, but by road it

was double the distance. The night was intensely dark, with clouds that hung heavily in the sky. Added to this there was the clatter and rumble of the vehicles that occupied the best part of the road, and there were the pits and half-filled shell holes that abounded under their layer of dust at the edges of the pave. For a while I struggled forward, my hands feeling clutch and throttle, and my foot upon the brake. For the most part I was in



“I would speed up till the star shells died down.”

first gear, but at times, as star shells relieved for a moment the blackness of the surroundings, I would kick into second, and would speed up a few yards till the star shells died out and the darkness appeared to be intensified. Then I would cram on the brakes and crawl slowly forward till my eyes once more picked out the details of the track before me. It was a night of noises that would be hard to compare. Behind me the steady reassuring rumble told of the “Heavies” that

were pouring their metal and explosion to the German trenches and back areas. In front, and on all sides, were the sharp cracks of the field guns, and the comfortable 'thump' of the '4.5' howitzers. Mingling with them all was the rattle of transport on cobbles, and almost unheard by comparison were the whistle and 'Phil' of the gas shells that the enemy was raining on the fields around us. So gradually I made my way, and my trusty Triumph chugged with a steady beat, whilst the exhaust pipe glowed as if in remonstrance to the heavy treatment. And when I was little above a mile from the farm my eyes began smarting and streaming, and my nostrils proclaimed the existence of tear shells and asphyxiating gas. Then, as a star shell broke out upon the darkness, I glanced at the drivers of the transport about me, and saw that each one of them was wearing his gas helmet. This, as you may imagine, was sufficient to frighten me to no little extent. Early in the war I had heard lectures on the agonies of gas poisoning, and later I had seen men fighting for their breath, with a green foam covering their lips. And I realised with terror that the respirator I carried was not of the new and efficient type, but one of the first examples that I had owned for eighteen months and carried in accordance with the routine order. I dragged it from its case, and hurriedly pulled it over my head. I thrust the mouthpiece between my teeth, and buttoned my tunic and Burberry tightly over the flap around my neck. And I found to my immense relief that the sickly odour of the gas had gone, and the momentary 'tightness' of my lungs had disappeared. Adjusting the goggles of the helmet, I started the engine, and set off once more over the abominable surface. The guns still cracked and rumbled, and the traffic still clattered as it jerked from stone to stone; but the thick flannel bag about my head had deadened these noises, and the beat of my own engine seemed dim and far away.

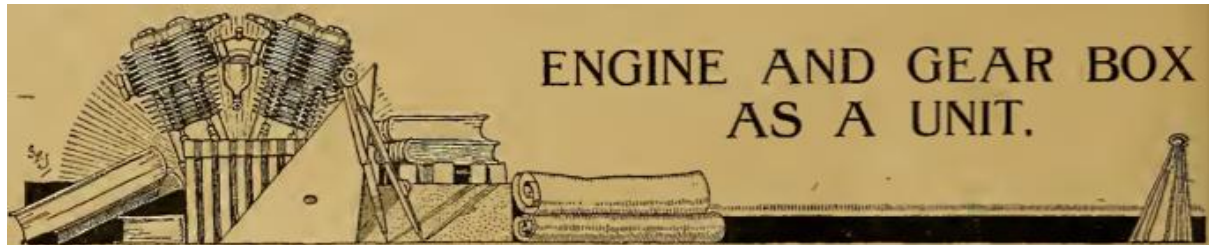


“More than once I found myself lying in the roadway.”

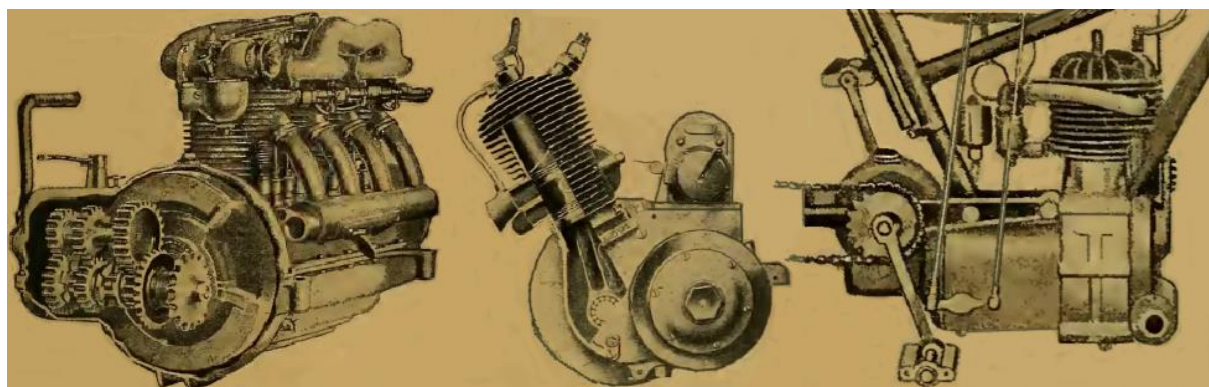
Now I scarce heeded the holes through which I rode, and more than once I found myself lying in the roadway. These things seemed trivial and unnatural; I felt that I was in a dream, a figure in some way detached from myself, for ever crawling forward in a world of silent noise. Presently I came to the farm, and drove into the yard more by instinct than intention. My men had already arrived, and were surprised at the sight I presented. I saw that they wore no respirators, and, pulling the bag from my head, I turned to the work that was on hand. The business was nearly completed when the whistle of the gas shells was heard, and the stink of the mixture detected in the cellar. Once more I donned my helmet, cursing myself again as I noticed the comparative comfort of the men in box respirators. Sweating from the heat of the night and the confinement of the cellar, we finished off wiring the exchange, and with considerable relief I jumped on my trusty motor cycle. I had lost all count of time, and, though I did not know it, it was five minutes past three as I headed again for the highway. The lines of traffic had gone, and, save for an occasional belated limber, the roads were deserted. The guns had stopped firing, and the noise of the earlier night was replaced by a great silence. Then, as I looked towards the east and noticed the greyness that was rising beyond the ridge, there was a burst of flame that turned darkness into a yellowish glare, and cast long vivid shadows across the roads and fields.

Following upon it was a deep crashing roar and a trembling of the ground that can be likened only to an earthquake. And before I had understood it every gun and howitzer was firing at an intense rate on the German line. It was then that I remembered the rumours of a giant mine, and realised that I had been a spectator of the greatest explosion the world has known.”—GD

• *The battle of Messines started at 3.10am on 7 June with the detonation of 19 mines beneath a German-held ridge. ‘GD’ is quite right—454 tonnes of high explosive made the biggest non-nuclear bang ever; it was heard in London and killed 10,000 men.*

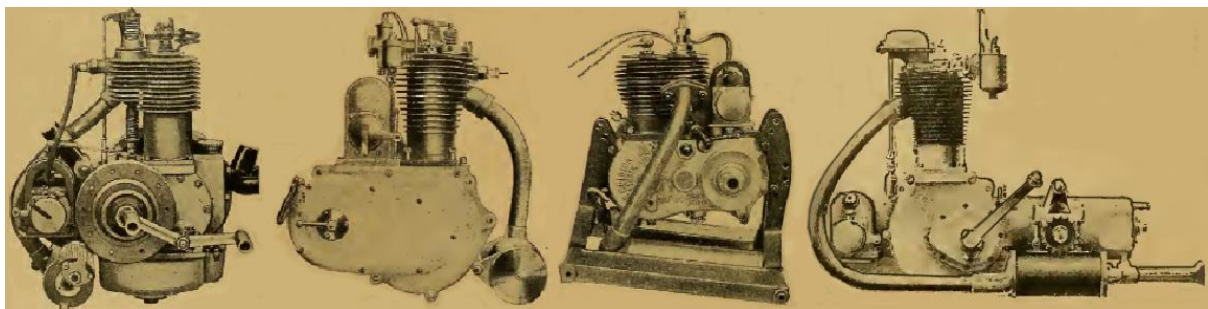


“WE IN ENGLAND WERE THE FIRST to adapt the unit system to motor cycles, but while, in this country, the system has met with little success, it has, in America, marked the whole trend of motor car design, and is quickly creeping into motor cycle practice. The Cleveland and the Henderson are two good examples, and incidentally mark two extremes...certain British units probably surpass them, yet with the exception of one or two lightweights the system is nowhere popularly established over here as it is in the States. Years ago our makers, produced designs which promised wonderful development, but because they were before their time they were turned down by the purchasing public. What are we aiming at in motor cycle design? Simplicity, neatness, reliability (a minimum of adjustment and of wear), a clean and compact exterior, a well protected and well oiled interior, lightness, and accessibility. A design which calls for an absolute minimum of adjustment is the simplest. In popular present-day design, in which we have the engine amidships, the gear box separately suspended a foot to the rear, having its own adjustment and its chain drive, the magneto thrown in where it fits, and likewise having its driving chain adjustment, we cannot claim simplicity. In the integral unit



From left: The Henderson unit comprises engine, three-speed gear box, clutch, magneto, carburetter, induction pipe, and silencer, all of which can be dropped out of the frame as a whole; inspection doors are also provided, so that the engine and gears can be examined in the frame. The Clyno two-stroke unit; in addition to the two-speed gear, the unit includes a multiple-disc clutch operating direct on the pulley. “Produced in 1904, the Swift stands as an early example of unit construction. The engine was 2¾hp, and the drive, through the two-speed gear box and silent worm, was conveyed to the rear wheel by open chain. No clutch was incorporated, though the free engine was a talking point.”

system adjustments are reduced to a minimum. Neatness: in this respect the integral unit system is so obviously superior that we need not dwell upon the point. Reliability: By eliminating adjustment, reliability is increased; and by ensuring fresh lubrication fed at a regular speed to all hard-working parts, reliability and reduced wear are ensured. A clean and compact exterior—a well-protected and well-oiled interior: Many of appearances, the more modern designs are a joy to behold as regards compactness and neatness. The lubrication for the transmission is, of course, fed from the engine, so that so long as the engine obtains its oil the remaining important parts are certain of their share. As for cleanliness, the single unit has it every way. It has fewer joints, no oil-clinging chains, and a minimum of exposed bearing ends. Lightness: The system offers the possibility of a reduction of weight, because it does away with countershaft chains and sprockets, the drive being direct from engine to gear box, but this advantage would be very slight. Furthermore By the employment of the single unit system the frame can be considerably lightened and simplified—in fact, it can be reduced to truly scientific lines. An integral unit is braced in itself and self-contained, instead of the stresses being thrown about haphazard. It can be slung under the frame by two points of contact, which are placed at the apices of the frame triangles, and thus it will be obvious to any engineer that both its method of suspension and its self-containedness would not only adapt themselves to an ideal frame design, but also they would tend to minimise vibration. Unit construction has not developed over here because the British motor cyclist is either too much of a conservative or too little of an engineer to realise its possibilities. He does not purchase a machine on the strength of the salesman's 'hot air'. Having heard the salesman through he goes home determined to discount every word he has heard and finally he buys a belt-driven single, because his cousin, three years ago, obtained very satisfactory service from such a mount."

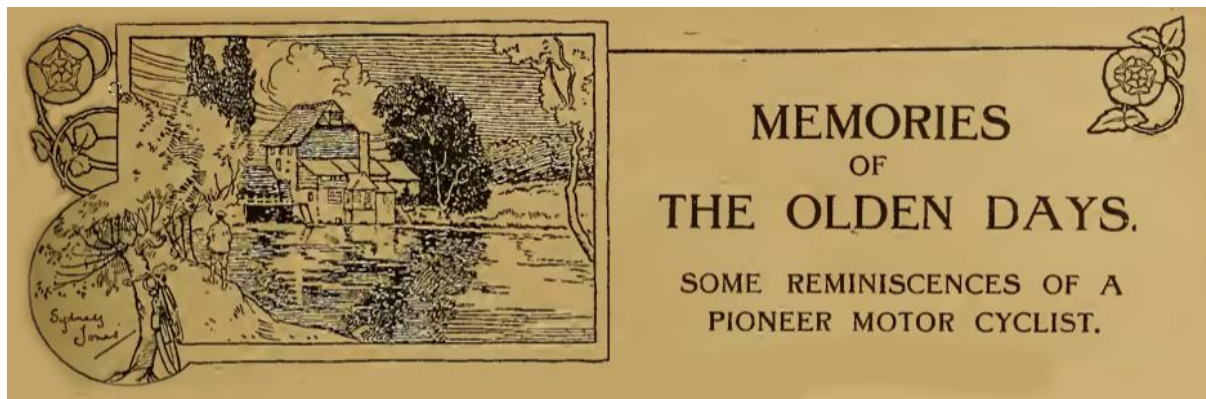


From left: "An early Veloce design. In many respects the unit was considerably before its time, oil being pump fed under pressure to the main bearings, while the oil sump was integral with the crank case...Though neat and ingenious, the unit was never a commercial success. The engine was 2½hp. The Villiers four-stroke unit was remarkable for its exceedingly clean exterior. This 2¾hp four-stroke was abandoned four years ago. The Precision Junior unit, in which space and weight are economised by the employment of a central shaft which answers the dual purpose of camshaft and intermediate shaft of the two-speed gear. The Diamond power plant, which has figured successfully in public competition, was originally designed in 1911. Note the enclosed overhead inlet valve mechanism. The engine is 2¾hp."

IXION HAD CLEARLY BEEN cleaning his crystal ball, and to good effect: "It is getting pretty evident that the engine of the future is going to be a hotch-potch of parts made of different metals. I am thinking of the upper half of the engine, for, of course, designers have long enjoyed great freedom of choice below the. waist belt. Everything points to aluminium cooling ribs, fitted onto a separate cylinder barrel, possibly of steel, with perhaps an aluminium alloy piston, and certainly over-head valves. Anybody who has handled one of these composite engines will understand that the next crux will relate to the metal of which the cylinder head will be made.

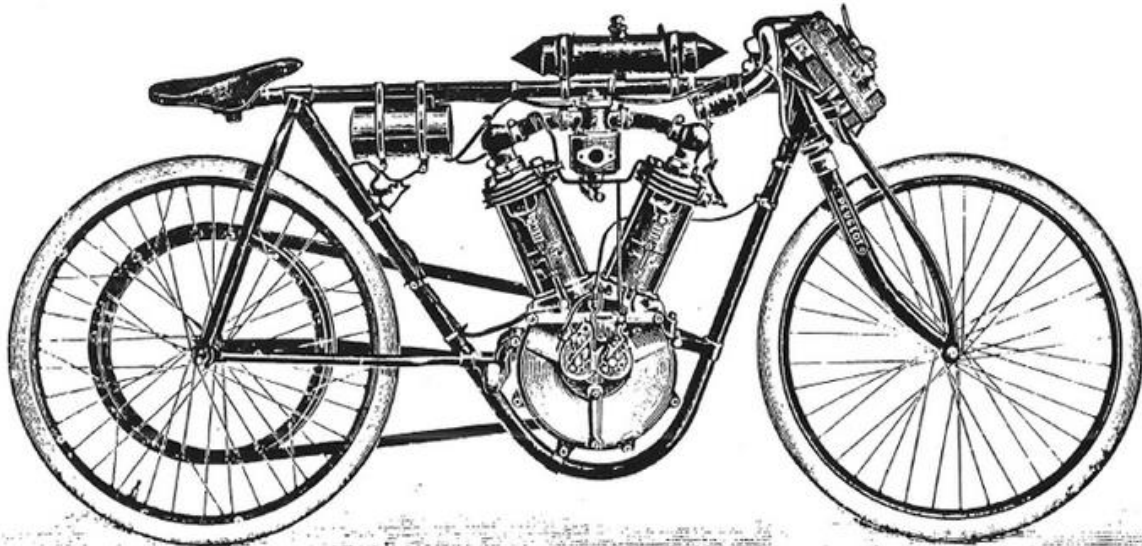
Cast iron is the usual medium at present it weighs a good deal, it gets very hot, it consequently leads to the maximum pitting of the valves, and the most rapid weakening of the springs, and it distorts sadly. What will it be made of eventually? Cast aluminium alloy with iron valve seatings? The clumsiness of these loose heads, as contrasted with the delicate machining of a turned steel cylinder or the low weight of an aluminium cast cylinder, is the point which strikes an observer first and hardest in his comparisons.”

“THE AMERICAN MOTOR CYCLE manufacturers have met to consider how far it is possible to meet the demands of the War Department by standardising the parts of motor cycles constructed for war service, and so to reduce the stocks of spares carried at the various army depots, accelerate manufacture, and simplify repair work...The meeting finally agreed to standardise the following parts of the WD cycles: rims, spokes, tyres, sparking plugs, head light, mountings, magneto bases, chains, controls, clutch pedals, brake pedals, gearshifts, kick-starters, oil and grease cups, oil and fuel pipes, and unions and taps, sidecar connections, and other sidecar fittings. There is not the least reason why a similar standardisation programme should not be devised and carried through in our own trade, and it would enormously simplify problems connected with our export trade when the war is over. Only about three of the above items are as yet properly standardised.”



“OU SONT LES NEIGES D’ANTAN?” “Where are the snows of yester-year?” How can we ever recapture that feeling of “the first time”, the first hearing of *Tristan und Isolde*, the anticipation in cutting the leaves of a great book, the first soar into the third dimension on a modern aeroplane, and—our first run on a motor cycle! 1904 seems a long while ago now; peace had just come, and the writer was one small unit in a big public school. Every week we eagerly devoured *The Motor Cycle*, and about the time of the National Show our pockets would bulge with catalogues. These were the days of Edge and Jarrott, George Barnes and Hooydonk, and many others. Save perhaps Harry Martin and Tessier, where are they all now? A few years before I had seen my first self-propelled vehicle—a De Dion tricycle, with the 2¾hp engine (high power for those times) mounted over the back axle. It chugged solemnly round Battersea Park and disappeared, leaving a small boy whose only wish in life was to possess one like it! The early Bat motor cycles, with 2¾hp De Dion and MMC engines, came in later. At one time this capable machine, with its quaint handle-bars and round brass tank, held every record between one and fifty miles. Who that heard it will forget the queer hollow note of its automatic inlet? The makers dispensed with pedals, and there was a great discussion at the time as to the advisability of this, for how was one to get home? (That was a paramount question in the days of accumulator ignition. I shall never forget seeing the unfortunate owner of a hefty twin Rex pedalling his several hundredweight of iron with the belt off, his feet spinning round to a fifty gear with tiny cranks. It was a labour of Hercules.) But the Bat came and conquered, and we never went back to pedals.

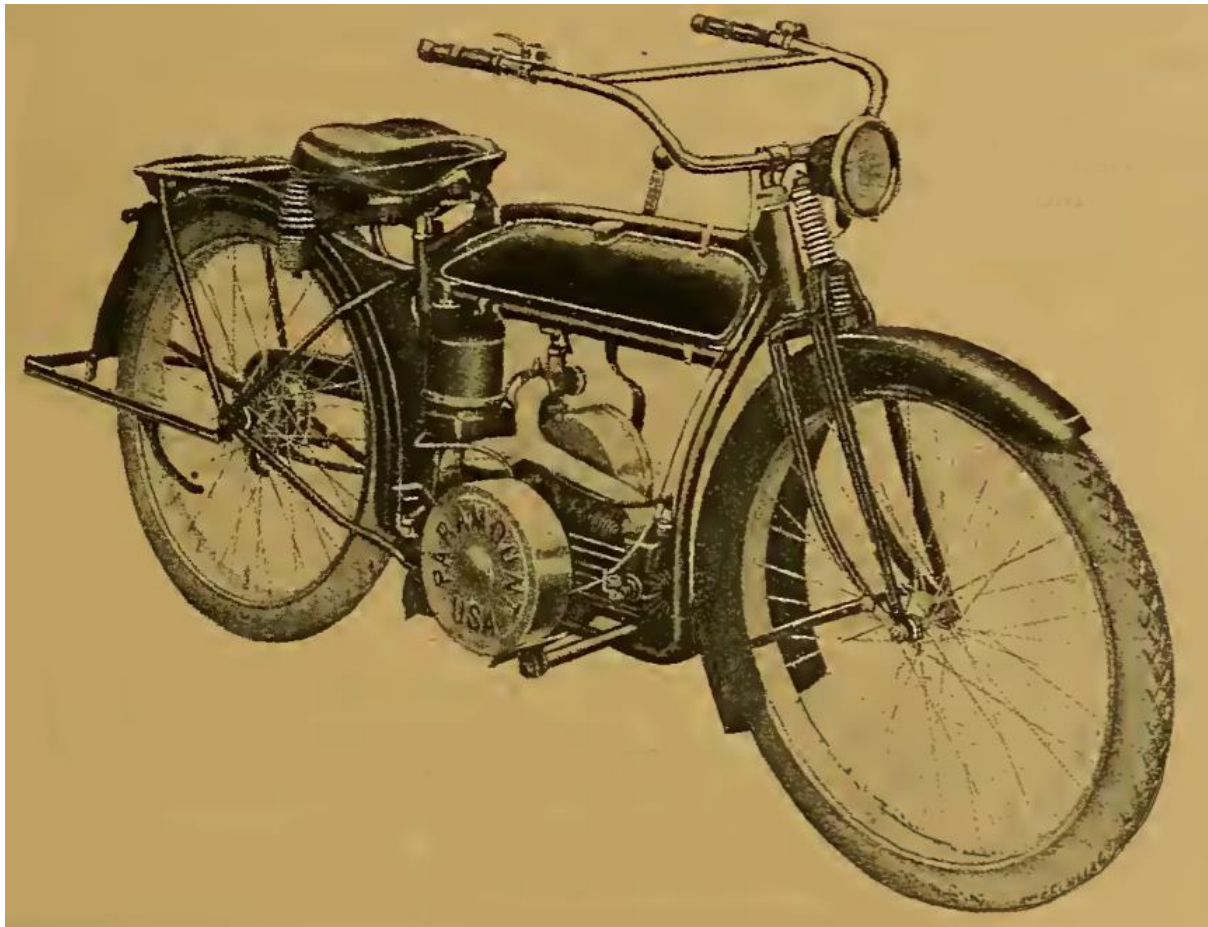
One of the great events of the year at that time was the Westerham hill-climb. This is a acclivity that even nowadays compels respect; the long rise from the village before the actual hill is reached calls for an engine with stamina. The Chase-JAP match, which Chase won by a narrow margin, is still remembered in the village. By this time the sport was in full swing, and Harry Martin on the old high-built Excelsior (inclined MMC engine, I think



Cissac's 14hp 2,116cc V-twin Peugeot weighed less than 110lb, of which the engine accounted for 59½lb. It had no brakes and no cooling fins on the barrels. The tank held just enough fuel and oil to propel it for 1¼ miles. The wheels weighed 24¾oz apiece, including the Wolber tyres. In 1904 it held the standing-start mile and flying kilometre world record.

it was) hotly contested the honours with Hooydonk, on the Minerva-engined Phoenix. I can see them now, the old crowd, roaring round the easy bends of the Crystal Palace track, craning feverishly over their tanks, squatted on luggage carriers (the racing man at least realised the danger and uselessness of the old high position). What a far cry from those days to my imperturbable little Douglas, and how I could have swept the board with it if I had only had it then! About this time the makers turned to passenger-carrying vehicles. Forecars were bolted on to 3hp machines. Speed gears were not, and often we walked, pushing several hundred pounds of sullen and over-heated machine. Heavy three-wheelers with labyrinthine machinery came into vogue, and died a natural death. Racing motor cycles had to come within a weight limit, 110lb I think it was, and we were at fearsome shifts to crowd 12hp into these limitations. Some- how we did it, with light gauge frames, cycle tyres, saddles cut into patterns, and pulleys drilled till they were mere cobwebs. It was a risky game, and many a frame lug was found cracked after a speed burst. I well remember the famous Brighton meeting, when Cissac came over with his 14hp Peugeot wonders, geared about 1½ to 1, which according to popular rumour destroyed one back wheel, tyre and all, each time they were used! Barnes put up a very plucky fight against the Continental crack on a little 5hp Deckert single-cylinder, with ports drilled below the piston stroke as was our practice then (and the oil they used!). At that meeting Rolls and Moore-Brabazon drove, and there appeared the 200hp Dufaux car, all engine, with a cane seat lashed on somehow—a fearsome beast, which was badly beaten by several more practicable monsters of considerably lesser power. But Rolls is dead, and of all that merry company of sportsmen, how many shall we meet when the war is over? Never mind, it was there

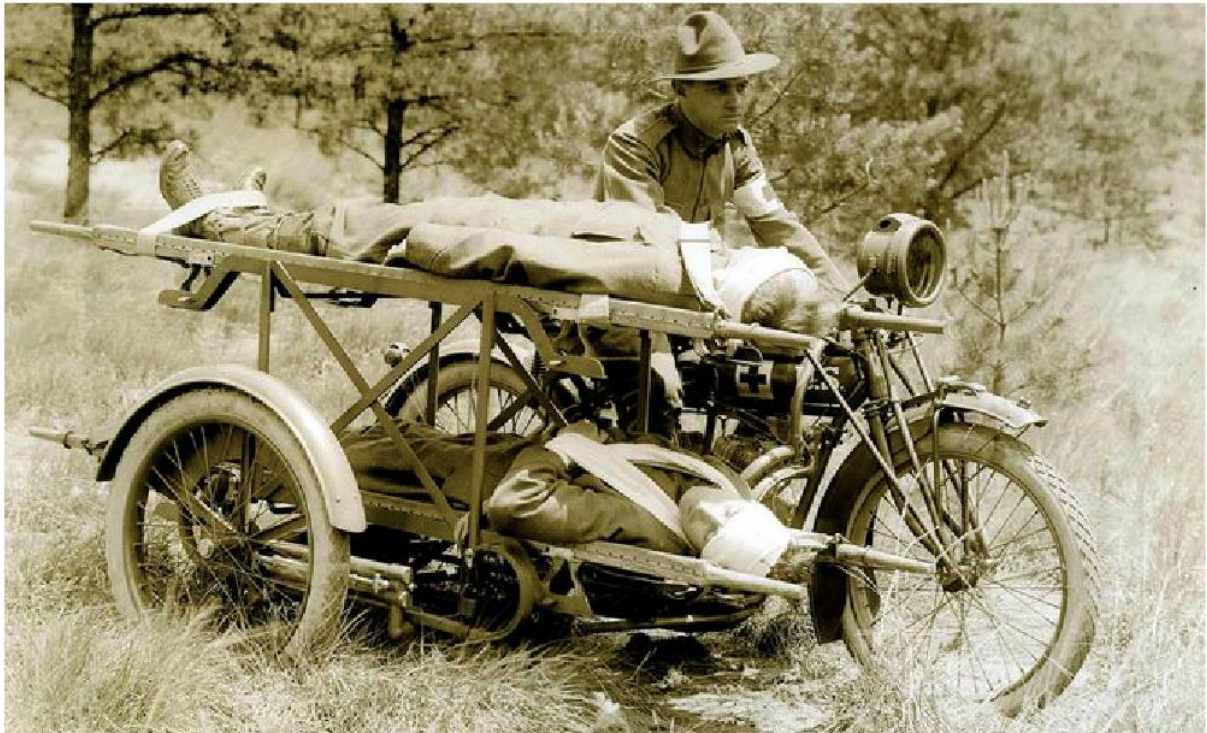
they learned to 'play the game', and our Teuton friends can bear witness that they play it well.
RHB.



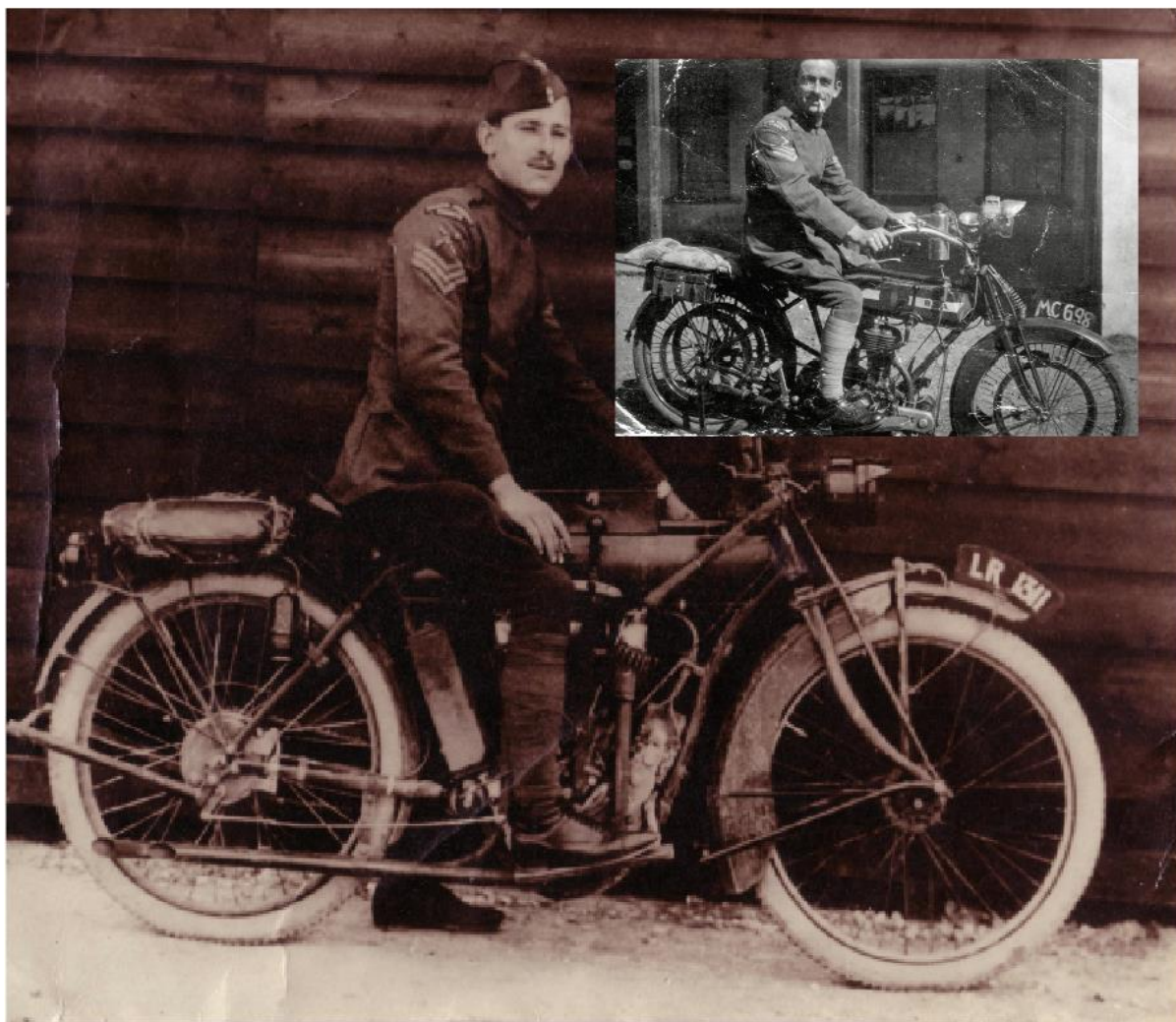
Paramount Motor Co, an American machine tool company, came up with a 354cc flat twin inspired by the success of the Douglas but it was by no means a straight copy. The valves were operated by three cams running at one-sixth engine speed; this patented system was claimed to be “absolutely silent”. Instead of a gearbox the Paramount featured a multi-plate clutch on which “indefinite slip can be permitted without heat owing to the light pressure on the plates”. The flywheel magneto was claimed to be “absolutely foolproof and mudproof, and...to produce a very hot spark, even at low engine speed”.

“MANY RIDERS, WHO COMPLAIN of the stiffness of their handle-bar clutches have only themselves to thank for this state of affairs, in that the clutch springs are often tightened up a good deal harder than they need be. The tension need be no greater than just to avoid slip, which, if chronic, would spell short life for the clutch plates.”

“HORSE RACING AND MOTORING: The Jockey Club, by their persistence, have been successful in securing the Government’s permission to continue racing. Their plea has been that by racing only could horse breeding be kept at its former high level of excellence. Comparisons are odious, but one wonders whether the motor industry has not been too unselfish in refraining from fighting the restriction that has been placed upon it. There is no questioning the fact that the innumerable Government orders have tended to create an unreasonable public feeling against motoring by private individuals, no matter how justifiable may be the reason for using either a motor cycle or car.”



Indian outfits carried guns—and wounded ‘doughboys’.

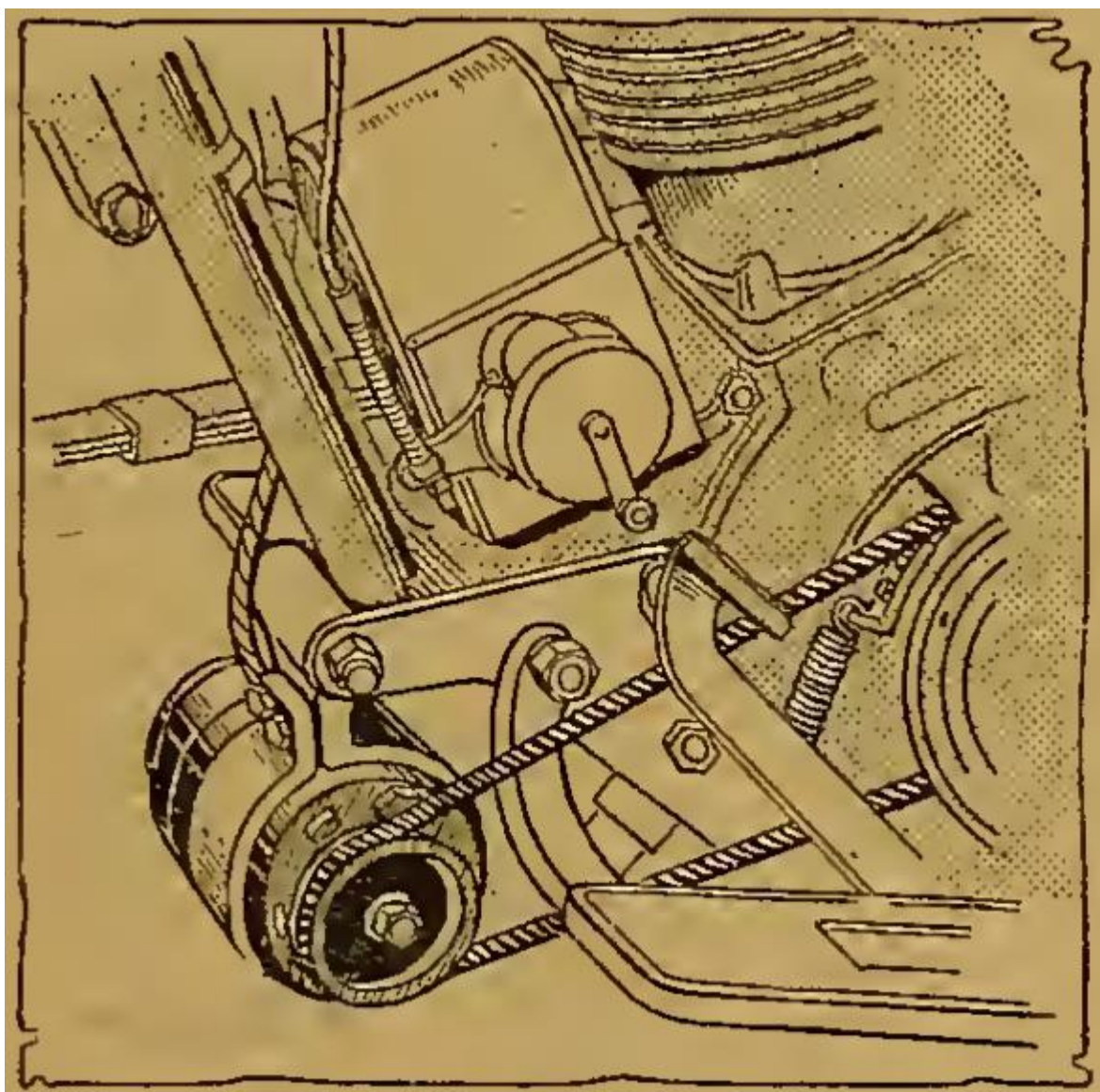


Bill Humphreys was a motorcycle racer who looks right at home aboard his WD Beeza (inset)—but check out that Indian. Drop bars, straight-through exhaust and lights...surely a predecessor of the cafe racing breed?

“A COMMITTEE HAS BEEN APPOINTED by the Fuel Research Board in order to ascertain the utilisation of Irish peat deposits. There is no questioning the fact that millions of gallons of fuel could be obtained by utilising these great peat deposits; but whether it would be a commercial success is another question.”

EXACTLY 122,582 MOTOR CYCLES were licensed for use on British roads (down from 158,047 the previous year) compared with 148,818 cars (down from 115,180). There were 108,203 motor cyclists in England and Wales, 10,643 in Scotland and 3,736 in Ireland.

“THERE IS A BAND OF enthusiastic European and American motor cyclists in Tokyo, of whom the writer, who graduated from his novitiate in England in the good old days of the front wheel driven Werner and Minerva-engined mounts, is one. It is hoped that a club will soon be formed. There exists already in Kobe a motor cycle club, which, under the presidency of a keen American, held recently a hill-climbing competition, the first event of its kind in Japan. The event was won by a 3½hp Bradbury...owing to the extremely simple and crude system of road mending, which consists in dumping a generous layer of pebbles (locally known as ‘petrified kidneys’) brought from the river beds and leaving it to the traffic to ‘work’ them in, woe to the unwary cyclist who strikes such patches of a newly repaired road!”



The American manufacturers of Splitdorf and Dixie magnetos came up with the Splitdorf DU-1 dynamo which could be readily retro-fitted to any make of motor cycle. It was driven from the engine shaft via a 'spring belt' and was designed to be used with a 6V 15Ah battery via an integral voltage regulator.

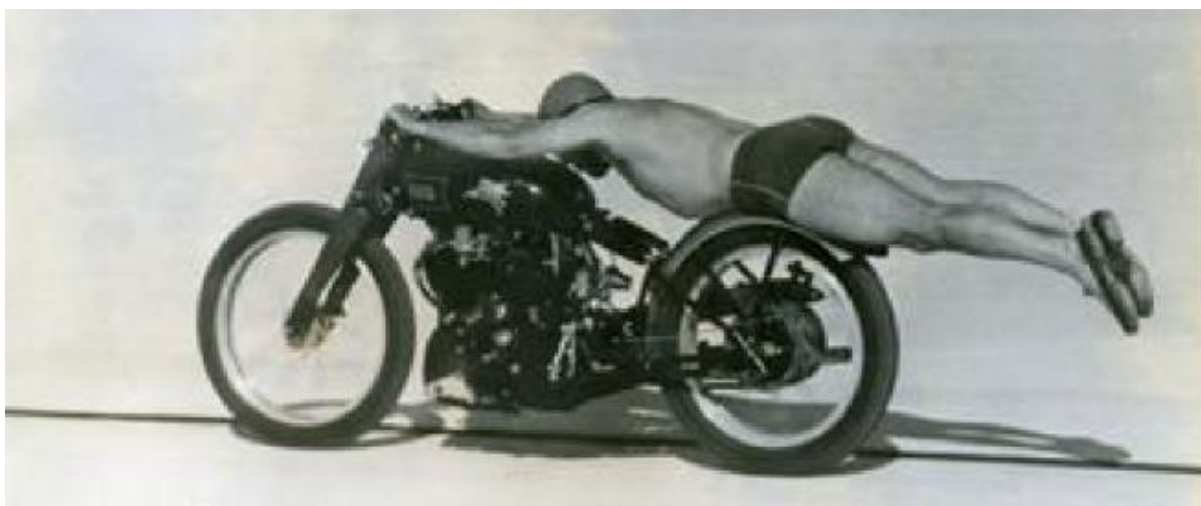
"IT IS WITH VERY GREAT REGRET that we have to record the death of Lt Ivan B Hart-Davies RFC, of Rugby, who was killed while flying in England last week. He was best known to motor cyclists as the holder of the John-o'-Groat's to Land's End record, the figures for which were reduced by him on more than one occasion. ~ He also competed in the Senior Tourist Trophy Race of 1912...In all his motor cycle rides he remained faithful to the Triumph, and as an evidence of his popularity it was astonishing to see the number of friends who used to turn out and assist him in his record rides. Hart-Davies was a fine tall specimen of a motor cyclist, weighing, at the time of his rides, over thirteen stone, so that his records are all the more meritorious, being accomplished by aid of a wonderful vitality combined with a determination to wrest the coveted record from all comers...He was in his thirty-ninth year, and obtained his 'wings' in August last, year, being doubtless one of the oldest pilots to obtain their 'wings' during the war."

MOTOR CYCLING REPORTED: "Again it is our unpleasant duty to record that a motor cyclist-airman is missing and his late at the moment is unknown. The rider is Howard R Davies, the

Sunbeam exponent, who, in 1914, tied with OC. Godfrey (another motor cyclist-airman, alas! no more) for second place in the Tourist Trophy Race, averaging 48.39mph over the course of 225 miles. Lieut HR Davies has not returned from a flight over the German lines on the 14th inst. Originally enlisting as a despatch rider in 1914, Davies was in 1915 granted a commission, and was for some months stationed at the RE Training Centre in Bedfordshire, one of his fellow officers being GT Gray, who was granted a commission about the same period, and whose death it was our sad duty to announce a fortnight ago. Davies was transferred to the Royal Flying Corps last year, and a month ago was promoted Lieutenant. Whilst home on leave, three weeks ago, he told acquaintances at the Sunbeam works of an exciting experience whilst flying at the Front. The controls of the machine were shot out of his hands, but he managed to spiral down and drop in 'No Man's Land', and finally succeeded in reaching the British lines." Some weeks later *The Motor Cycle* put the story right: "It will please our readers to know that Howard R Davies is safe...an unauthorised statement appeared in a contemporary to the effect that he was killed. As a matter of fact, the first news of his welfare, which reached his parents last week, came in a roundabout way. A cheque signed by HR Davies in Karlsruhe passed through a Berlin branch and reached Messrs Cox & Co's Bank towards the end of the week and immediately a wire was forwarded to the anxious parents of HR Davies conveying the good tidings." Howard made several attempts to escape, including a tunnel, but was unsuccessful.



Reports of Lt HR Davies' death were premature—he made it home to found the HRD-Vincent legend...



...And if Davies hadn't made it home, Rollie Free wouldn't have done more than 150mph in his swimming trunks on a Vincent-HRD Black Lightning at the Bonneville Salt Flats in 1948.

THE US GOVERNMENT PLACED orders for 2,500 militarised Indian twins and 1,500 Harleys. The two factories were ordered to cancel civilian work until the military contract had been completed.

"FOR SOME TIME PAST we have noticed one who is obviously a beginner riding in the residential districts of Coventry apparently in fear and trembling during his evening leisure. He rides a very neat little Douglas machine; and should he chance upon these lines, we wish to inform him that during the last fortnight or more his engine has been firing in one cylinder only."

"THE JOY OF THE OPEN ROAD: We witnessed a pretty sight the other day in the neighbourhood of Leamington—a baby two-stroke gamely struggling along with a great disabled twin in tow. Whether the two riders were enjoying the procession as much as the onlookers is open to question. Certainly those who recognised the two riders thoroughly enjoyed the sight, especially on the inclines, when both men lustily paddled the machines until they appeared to be on the verge of apoplexy. It was a sight worthy of the gods!"

"BUILT AT THE FRONT: Sir,—Thinking you may be interested to know what can be done with 'bully beef' and biscuit tins, I enclose a photograph of our 'Pug', which we built while on active service. It is composed of the following parts: A Levis engine, which we found. Frame which was bought as a bargain from a Frenchman for 25 francs. Handle-bars which we took off a push-bicycle and rebent with a pair of wood grip extensions. Tank made out of sheet steel. Mudguards built up from biscuit tins. The fittings, such as foot brake, footrests, engine plates, and magneto control, etc. (with the exception of nuts and bolts and wire control, which we begged off the Signals) we made from raw material. The bicycle has done 3,000 miles, is still going strong, and will climb any average hill, I may say we have since fitted spring forks and two-speed gear, which we took off a captured Hun NSU.

Sec-Cpl JR Cox

L-Cpl WG Morgan."



Messrs Cox and Morgan with *Pug*, the bike they built on the Western Front.

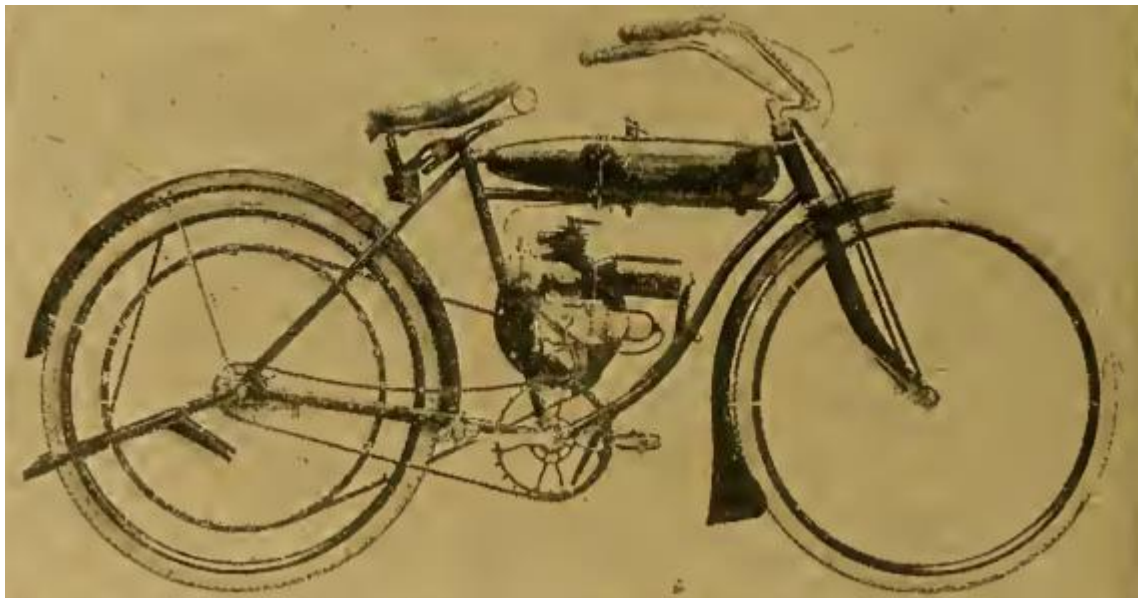
“IS IF BEYOND THE WIT OF MAN,” Ixion asked, “to devise better stands for heavyweights? Many a modern heavyweight scales nearly 4cwt, and in many cases the weight of a sidecar is super-added. Men of over 45 are liable to serious injury in the attempt to raise such a load. If it is impossible to devise such a stand the need would be partly met by the fitting of an auxiliary prop-stand, intended for use when the machine merely needs propping, and not lifting, leaving the existing fitments in reserve for puncture repairing and so forth. But it should not be difficult to invent a pedal lever stand which would fill the bill.”

ONE OF MY GREAT DISAPPOINTMENTS as a motor cyclist,” Ixion revealed, “was the refusal of the trade to follow the lead set it by Messrs Wartnaby and Draper, when they brought out a motor cycle with a rational lubricating system. Readers may remember that a sump beneath the engine carried sufficient oil for several hundred miles: this was circulated by a pump, and the engine was accurately oiled: its plugs never sooted: the oil consumption was low: the crank case kept spotlessly clean: and the rider had no demands made on his memory or skill. I sighed

for a WD machine this week, when I had to ride in succession three typical British machines, none of them too familiar, all throwing the onus of accurate oiling on the driver, and all oscillating between the twin nuisances of a hot bearing or a sooted plug. Readers know that I am not on principle an indiscriminating admirer of American motor cycles, and consider they enjoy a far greater popularity in this country than they deserve. But on this, point at least they have us whacked. You can get on most Yankee bicycles and leave them to oil themselves. On the average Britisher, unless you stick to one machine and one brand of oil, you are perpetually wondering how long ago you put in that last charge of oil, or how many drops are really percolating per minute behind the miserable little greenery-yallery window of the so-called sight gauge."

'TEDDY' CARROLL LAPPED the Cincinnati Speedway for 24 hours on a standard Indian Powerplus combo, covering 1,276 miles at an average 53.6mph.

IN THE USA *MOTOR CYCLING and Bicycling* magazine followed the lead set by *The Motor Cycle* by publishing recruitment pages under the heading 'Uncle Sam's Fighting Men'.



"A new American lightweight, known as the Evans power cycle. It has recently been placed on the market by the Cyclomotor Corporation, New York. The complete outfit weighs only 65lb, and can be handled like an ordinary bicycle."

"WE HAVE A UNIQUE CHANCE to develop the lightweight utility mount, first for our own sakes, as we shall be ready for it—years before other nations are, and secondly for export, as by lapse of time the complex heavyweight will go out of fashion in other countries also. We are still very far short of the ideal in almost every respect. That is natural and pardonable, but it will be unpardonable if our trade wastes too many years following the heavyweight will o' the wisp; its knell is already sounding, so far as the general public are concerned, though our dashing youngsters will buttress up an illusive demand for it for some years to come."

"THERE ARE TOO MANY PEOPLE in the motor cycle world, both makers and users, who consider that motor cycles have reached the stage in which there can be no improvement. This is very dangerous position to arrive at in any industry, and the subject therefore requires careful study. People are rather too apt to compare the motor bicycle with the pedal cycle. Now, the pedal cycle has reached, so far as we can see, finality, but the motor cycle is a very different

proposition, for it is not a simple machine propelled by brute force. No one will contend that the internal combustion engine is perfect, and yet before the war we had motor cycle manufacturers slavishly copying one another, with the result that individuality in design was lacking in most makes. The war has taught people a great deal, and not least of all those engaged in the manufacture of motor cycles. Firms who confidently supplied the Government with machines at the beginning of hostilities—thinking that they were perfect and that nothing better could be devised—had a series of terrible shocks when the campaign was not many weeks old. Their products, which they thought good enough for an ACU Six Days trial—over roads so bad that the competitors almost struck because of them—failed hopelessly at the Front, and it was discovered that the roads in the war area, which had to be traversed by men whose duty it is to obey and not to ask why, played such havoc with the machines that they were almost immediately thrown out of commission. The chief lessons which the war has taught us are that for really rough work the ultra-lightweight is unsuitable, as it does not possess either sufficient strength or power, and that the medium-weight machine, which was thought to be ideal, needed a good deal of strengthening and detail improvements in the way of protection both for the rider and for the external working parts. There are points, however, which the war has not cleared up. It has done nothing to make motor cycles more silent, nor has it improved their flexibility—two items which need serious attention. There is yet another point which we have continually advocated, and that is the general adoption of the spring frame. It behoves the ACU, therefore, to bear in mind that when the time comes for the discussion of another six days trial special marks should be awarded for silence, flexibility, and springing—items that up to the present have been sadly neglected.”

“AT VARIOUS TIMES,” IXION WROTE, “two nations have challenged—temporarily at any rate—beaten us in the motor cycle markets of our own Colonies, viz, America and Germany. The German-built NSU was at one time the most popular Colonial machine; various American machines, notably the Indian, had us whopped to the world in many Overseas markets. In neither case were the machines superior in quality, price, or accessibility to those we exported. The NSU perhaps owed its temporary supremacy to the fact that it was equipped with a goodish variable gear long before British makers took such things seriously. The Americans owed their supremacy—still unbroken by the way—solely to their superior interpretation of ‘service’. When the war ends, we must aim at supplying the man who lives in a colony, dominion, or dependency with a machine designed for Overseas conditions; it must be of first-rate material and workmanship; it must be as cheap as any potential rivals (cheapness embodies quality as well as price; no bad machine is ever genuinely ‘cheap’); it must be designed for amateur management; it must be introduced, pushed, supported, and maintained by first-class local ‘service’...It is evident that in the near future the British trade can, if it likes, produce a machine which could give five years’ hard service in Central Africa without once travelling down to a repairer on the coast.”



“Scott motor cycles and Rolls-Royce armoured cars on one of our Eastern Fronts.”

“THE GERMAN MILITARY AUTHORITIES, according to a German technical journal, possessed at the outbreak of war no fewer than 20,335 motor cycles. This is, of course, somewhat astounding to us, as before the war the motor cycle was but poorly developed in the land of the Hun. There was practically only one well-known make, and the Hun did not take kindly to this means of locomotion.”

“THE SEATTLE-NORTH YAKIMA-Goldendale-White-Salmon-Portland course again proved to be the hardest reliability course in the United States, as only two of the 21 starters in the Seattle MC trial reached the conclusion of the 600 miles run with full marks. The winning machines were a Thor and an Excelsior. One Harley-Davidson sidecar outfit accomplished the course in a remarkably consistent manner.”

“AMERICAN ABBREVIATIONS: Our Yankee cousins call petrol gasolene for short. Why? They are always out to save time, but we know which word we can say the more quickly.”

“THE NEW PETROL LICENCES: It does not appear to be generally known that if a licence for petrol is issued to an applicant, it is only issued on condition that he holds his machine, whether it be a car or a motor cycle, at the disposal of the Government in case of national emergency. Of course, this does not really mean anything, as in case of national emergency the Government has always had the right to commandeer anything it thought fit.” Paraffin and the other substitute fuels were also strictly rationed. An engine was developed to run on acetylene gas—but the carbide needed to produce acetylene was also seen as a national resource and was thus unobtainable on the open market. However, the Blue ‘Un was able to report: “We are informed that the Ministry of Munitions does not regard coal gas as coming within the category of a petrol substitute...it is considered that there will be little or no difficulty in supplying motor car and motor cycle owners with all the gas they need.”

“STARTING ON COAL GAS: A Blackheath motorist who is running a new Matchless outfit on paraffin has solved the starting difficulty at home by simply connecting up a household gas tap to the induction pipe.”

“THE FUEL QUESTION HAS BECOME one of extreme seriousness to motor cyclists...The regulations may appear to be somewhat drastic, but, as the Petrol Controller points out in some observations which accompany the Motor Spirit Restriction Order, the continuance of the use of motor vehicles, both cars and cycles, has been far too prevalent. No sensible motorist denies that the country has just call upon all stocks of fuel, nor grudges that used upon essential services, but no waste should be permitted, and much more discrimination might be used in allotting the surplus. If this surplus is not sufficient, then those whose motor cycles are of vital importance to them, and whose claims have been passed over by the Petrol Control Department, must cast about for another fuel-and, in the absence of benzole, alcohol, and

acetylene, coal gas seems to be the only alternative...in the case of two-wheeled solo mounts we fear it must be ruled out of court, at least for the present, but we hope the difficulty of excessive bulk may shortly be overcome...About fifty cubic feet can conveniently be carried on a sidecar outfit, and this is roughly equal to one-fifth of a gallon of petrol, or fuel for about fifteen miles...If gas could be safely compressed into steel cylinders which could be attached to a motor cycle a much more convenient method would be to hand, for full cylinders might be supplied at charging stations all over the country in exchange for empty ones."



GAS BAGS

We can supply Double Texture Hood Material for making up, or can Manufacture Bags to own dimensions and design. Sample of sewing submitted.

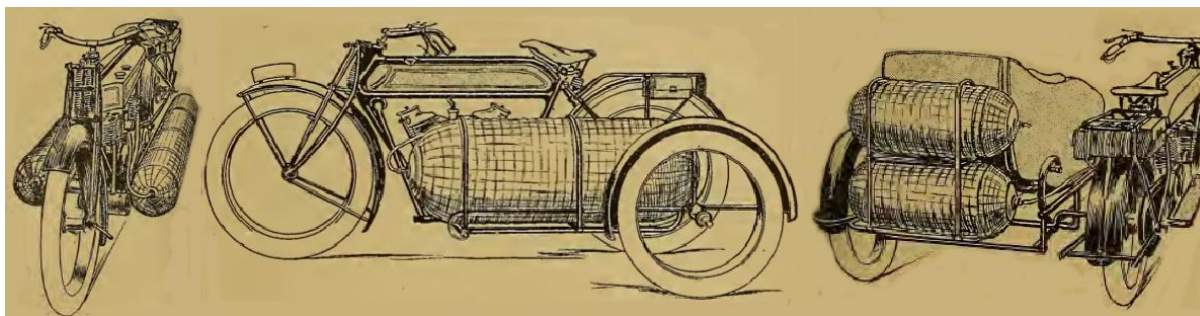
MUD SPLASHERS

We still have stock of Heavy Double Japanned Canvas 72in. wide, and can quote for Material, or Made-up Splashers less ironwork. Send stamped envelope for patterns.

W. D. TALBERT & Co.,
46-48, Sun St., London, E.C.2

With liquid fuel being in vanishingly short supply gas, with all its shortcomings, offered a way for desperate enthusiasts to keep their bikes running.

COMMERCIAL MOTOR AND *MOTOR* magazines staged an exhibition of more than 30 coal gas-driven vehicles including three motor cycles. A 2 $\frac{3}{4}$ hp Douglas solo was fitted with telescopic supports for a gasbag measuring 8ft long and 2ft in diameter. An 8hp Zenith outfit carried a 50cu ft container on a canopy over the sidecar. And a Scott outfit haled a gas bag "stowed on one of the Cox gas trailers manufactured by Mr Douglas S Cox of West Norwood, SE".

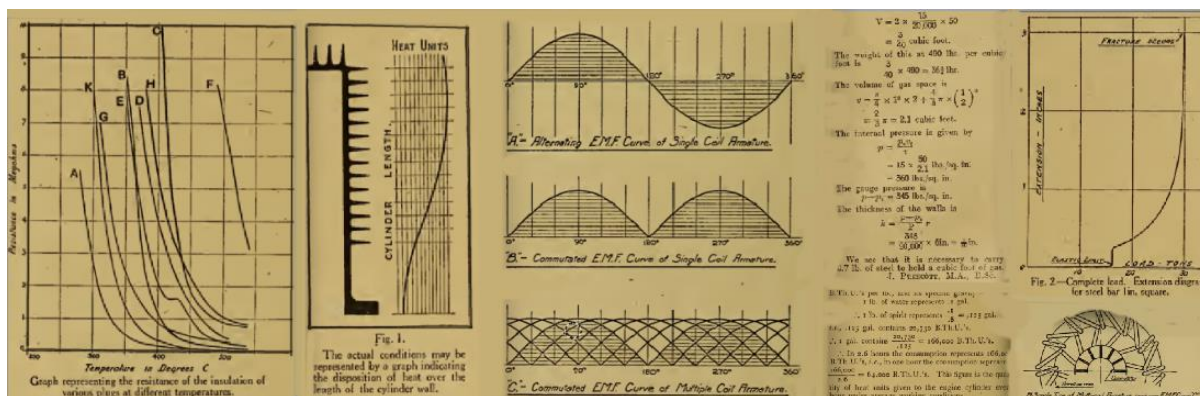


“Mounting the gas bolster—suggested method of equipping the motor cycle with the Wood-Milne fabric and rubber container. The invention of Mr John Muir and Mr HB Potter, of the Wood-Milne Tyre Co, it is light, compact, and perhaps safer than metal cylinders, and is capable of withstanding a pressure of 1,000psi. From the left: The appearance of a solo machine titled with gas containers in place of the footboards. A Wood-Milne container of this size could carry sufficient gas to run a sidecar a hundred and twenty miles. The most attractive proposition is to carry the gas on the luggage grid.”

“MOTOR CYCLE POLICE: It seems strange that the police of this country do not make more use of the motor bicycle. Over the water our American Allies employ policemen motor cyclists to a great extent. They use them to catch those who exceed the speed limit, and it is certainly more gratifying to be caught by a fellow motor cyclist who rides up to you at a speed exceeding your own, and who also breaks the law himself in catching you, than to be stopped by an English policeman whose colleagues hide when and how they can, and time you over the all too short 220 yards.”

IXION, ONCE AGAIN IN WHIMSICAL MOOD: “Our tame inventor is now busy on a gorgeous idea, namely, a flexible shaft drive. You will buy it in lengths like speedometer cable, and couple it tip to the crankshaft and rear bevels by screwed unions and cotter pins. There is no particular reason why it should not run inside the frame tubes when a couple of rotund excrescences on the crank case and the hub win be the sole visible symptoms of the fact tkat the machine has any transmission at all; and the bottom bracket cavities will be strictly reserved for dynamos, Thermos flasks, and other luxuries. I must fall asleep and dream about it. It sounds good, and ought to have the FN whacked to the world about AD 1945.”

THE JOURNAL OF EDUCATION reported: “Science and mathematical masters could advantageously make greater use of problems presented by internal combustion engines and of the kinematical illustrations afforded by bicycles and aeroplanes. In a single number of *The Motor Cycle*, the issue of October 11th, we noted discussions on the cooling of cylinders, on the energy equivalence of petrol and coal gas, on the capacity of gas cylinders, on the chemistry of petrol, and a particularly instructive essay on relative motion. Every paragraph provided suitable illustrations for classroom use.”



Readers of the Blue 'Un were not afraid of metallurgy, chemistry or physics (they were also happy with French and Latin phrases, by the way). This random selection of equations and diagrams covers sparking plug insulation resistance at various temperatures; heat disposition on a cylinder wall; EMF curves on various armatures; necessary tank thickness for pressurised gas; the energy in various fuels; the strength of steel; and a multi-coil armature.

The following stories also reflect a serious level of education, while reflecting un understandable obsession with fuel at a time when the government was determined not to divert any fuel from the war effort...

"GAS FITTERS: It may convenience motor cyclists in the vicinity of Newcastle-on-Tyne to hear that Travers Ltd, of that city, are making a speciality in equipping vehicles for the use of coal gas."

"COMPOSITION OF PETROL: We have previously referred to the chemical composition and formulae of the main constituents of 'petrol'. The formula of octane was given as C_8H_{20} , whereas it should have been C_8H_{18} ; the general formula of the paraffin series is C_nH_{2n+2} , that of 'paraffin' itself being $C_{10}H_{22}$ (decane) or $C_{11}H_{24}$, (undecane).

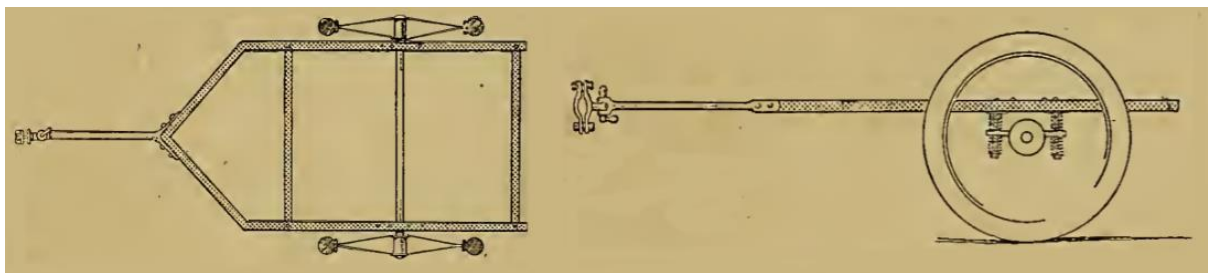
"NOMENCLATURE OF MEMBERS OF THE PARAFFIN SERIES: Ambiguity or uncertainty attaches to the names of most of the commoner members of this extremely important series. Thus the first member, CH_4 , is variously known as marsh gas and natural gas; that group of members which concerns us most is often described by a registered trade name of the product of one particular firm: 'petrol' is a name registered by Messrs Carless, Capel, and Leonard, but no one thinks of the particular products of this firm when they speak of petrol. Nevertheless, readers may have noticed that the advertisements say Shell or Pratt's 'motor spirit', not petrol. Similarly we speak of 'paraffin' as though it were a definite substance, but it is the generic name of a whole group of substances, the only one of which that is referred to as 'paraffin' in technical circles being 'paraffin wax' ($C_{20}H_{42}$), a substance solid at normal temperatures. The Americans refer to liquid paraffin as 'kerosene', and the use of this term avoids much ambiguity."

"COAL GAS AS MOTOR FUEL: An interesting discussion on the use of coal gas as a fuel for motor vehicles followed the sixth annual meeting of the British Commercial Gas Association. Mr ES Shrapnell-Smith (Petroleum Economy Officer) suggested the use of liquid gas in vacuum jacketed bottles as being a means of storing the gas in quantity in a light container. He also announced another interesting fact—that the Local Government Board would shortly issue an Order permitting the use of trailers for carrying gas containers without reducing their speed. It is not generally known that previous to this Order the use of trailers behind heavy four-wheeled vehicles is allowed only on condition that a reduced speed of 5mph is maintained. So far, Mr Shrapnell-Smith stated, there was no Order to the effect that gas vehicles may not be used for

private motor vehicles, but there was a distinct feeling that private motoring should not be encouraged.”

“WE ARE INFORMED that the Embro Cycle and Motor Co, 21, Charlotte Street, Hull, are prepared to fit gasbags to motor cycles.”

“OWING TO THE RECENT Motor Spirit Restriction Order the only fuel available for motor cycles used for private purposes is coal gas. The difficulty of storing the gas, great enough in the case of cars, is even greater in the case of motor cycles. A gasbag carried on or in the place of the sidecar body contains only sufficient gas for a very few miles, while the wind resistance offered by the bulk of the container is an important item. The trailer is a slight improvement so far as capacity is concerned, but it can hardly be considered an ideal solution of the problem. Then there is the question of pressure storage, which at present constitutes a still greater difficulty, as this system is not by any means looked upon with favour by the authorities. Finally, there is the question of the best means of introducing the gas into the cylinders, the question of gas carburetters, and of control. The whole matter of the use of coal gas as applied to self-propelled internal combustion-engined vehicles is in its infancy, but if it be studied carefully now, and the Government does not want to hinder development merely for the sake of stopping private motoring, coal gas as a fuel may continue after the war to the great advantage of the nation, as it will be a home-produced fuel, and, as such, deserves all the encouragement that can be afforded to it.”

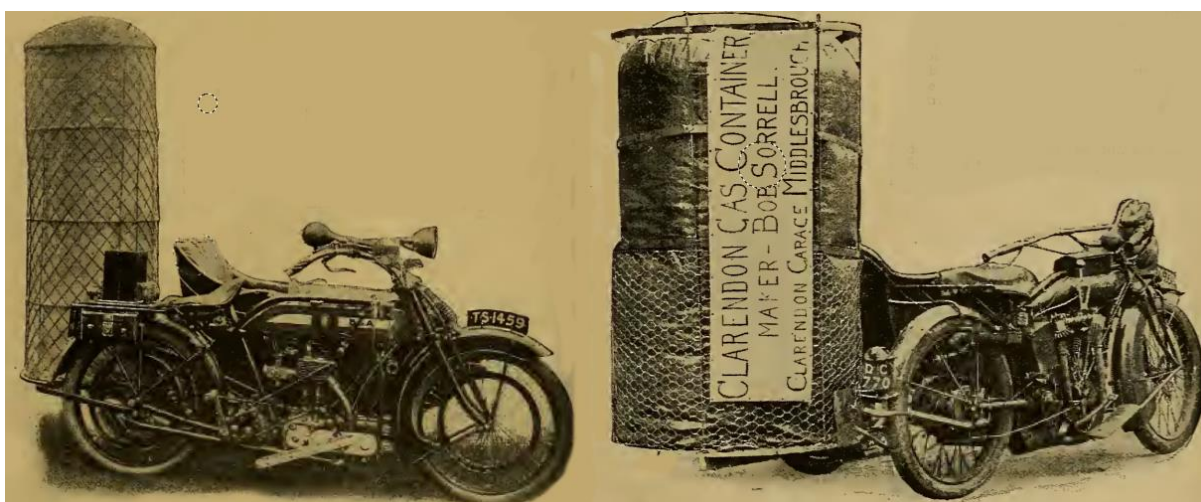


“Now that petrol is practically unobtainable several enterprising firms are turning their attention to the manufacture of devices for the carrying of gasbags, among them being Messrs Henderson Sidecars, of Sheffield, who are marketing a trailer to be known as the Gastrail. It boasts many unique features, some of which are embodied in the Henderson sidecars. For instance, the springing is the patent design, as used on the front of the Henderson Featherweight sidecars. The chassis is composed of very light angle steel, such as is used in the manufacture of luggage grids, and the attachment to the rear of the motor cycle is made by means of push pins, with a locking clip. Any size of gasbag can be fitted to this trailer, as it is a very easy matter to lengthen the framework.”

“THOSE MOTOR CYCLISTS who are living in Hampshire within fifty miles of Bournemouth, and who are running their machines on coal gas, will be interested to hear that the Grosvenor Garage, Ltd, Bournemouth, have just published a most useful map showing the coal gas charging stations in the surrounding neighbourhood.”



"A gas-holder designed specially for light-weight motor cycles, which should especially appeal to those motor cyclists who require to use their machines for going to and from business, is being manufactured by Messrs. John Knappe and Son, The Motor Depot, Burnley. The capacity is approximately 15cf, and on test a mileage of twelve was obtained. The container can be filled from the home, meter at a cost of less than one penny. It will be noted that the outfit is fitted to an Alldays Allon. No appreciable difference was noticeable in the running on petrol and on coal gas. Special attention has been paid to the detaching of the container. The box can be removed in five seconds in case a repair is necessary to rear wheel or tyre, the unscrewing of three wing nuts being all that is required. The weight complete is only 18lb. The appearance is exceptionally neat, and it does not detract from the smartness of the machine."



Left: A Dundee enthusiast named Stonier rigged his BSA combo with a fabric gas tank prtected with iron wire and built to handle a pressure of over 50psi. It gave the combo a range of 15 miles on 2d worth of gas. Right: "A coal gas container designed by Mr B Sorrell, Middlesbrough. It is 5ft by 3ft, and holds sufficient gas to drive the 7-9hp Indian twenty miles."



“Coal gas for a solo mount: A method of fixing a gas bag to a solo motor bicycle which has been sent to us by a reader. So far he has not had any great success with the installation, as he has not been working on quite the right lines in connecting up the gas pipe to the carburetter. In the advice we have given him. however, we hope to have found for him a solution of his difficulties.” The bike’s a Wolf-TDC with Pilot forks; the registration plate puts it in St Helens, Lancs.



"The first motor cycle in

Leeds to be driven by coal gas. It is the property of Mr F Shaw, who says the container holds sufficient gas to propel the machine with sidecar about eighteen miles. It is interesting to learn that Mr Shaw finds the wind pressure has but little effect, and he has not noticed any ill effects on the steering."

"THE USA PRESS AND MOTOR CYCLISTS: The press in the United States have taken up a very antagonistic attitude towards the motor cycle, apparently for no better reason than the objection to certain performances of harum-scarum riders. This is somewhat reminiscent of the newspaper journalism in this country some years ago. Though comment in our press was bad enough, they never went to the length that the USA journalists have done recently in damning the popularisation of the motor cycle. The New York World recently had, says *The Motor Cycle and Bicycle Illustrated*, a bold headline running across two columns announcing that the motor cycle has been the cause of another fatal accident, despite the fact that the paragraphs which follow describe three automobile fatalities, two waggon accidents, and a street car case, in addition to the single mention of the motor cycle. It is worth noting also that the police, according to the article, hold the motor cyclist blameless for the accident. This trend of editorial policy is not confined to a few newspapers. It is general, and all the educational work so far done by trade bodies has not changed it. This is too serious a situation to ignore."

"BROOKLANDS MODELS: NORTON MOTORS draw our attention to the fact that very often machines are sold, possibly inadvertently, as Brooklands Specials, which do not hold the official Brooklands certificates. The owners of Norton machines which were sold to them as Brooklands models, can obtain confirmation or otherwise of this fact by submitting the engine number and lettering to the makers."

A week later there was a follow-up from the horse's mouth...

"Sir, With regard to your note re Norton Brooklands Specials...as I dismantled, re-assembled, and tuned all these engines, without exception, at Brooklands, I have rather full records regarding them, and shall be very pleased to supply any member of the public, who will send a stamped addressed envelope and quote the number of the particular engine he is interested in, with any details required, including the actual speed done on the official test.

DR O'Donovan"

“A JAPANESE READER of *The Motor Cycle*: Mr U Imai, of Osaka, is a Japanese who has been an enthusiastic reader of *The Motor Cycle* since 1913. He is the owner of three machines, an Invicta, owner of three machines, an Invicta, a Triumph, and a Douglas, the favourite, he says, being the Baby Triumph, which is very suitable for the country in which he resides. He finishes his letter to us by wishing that the peace of the world will soon be restored by England’s great efforts, and that he will see many new types of machines made by Great Britain.”



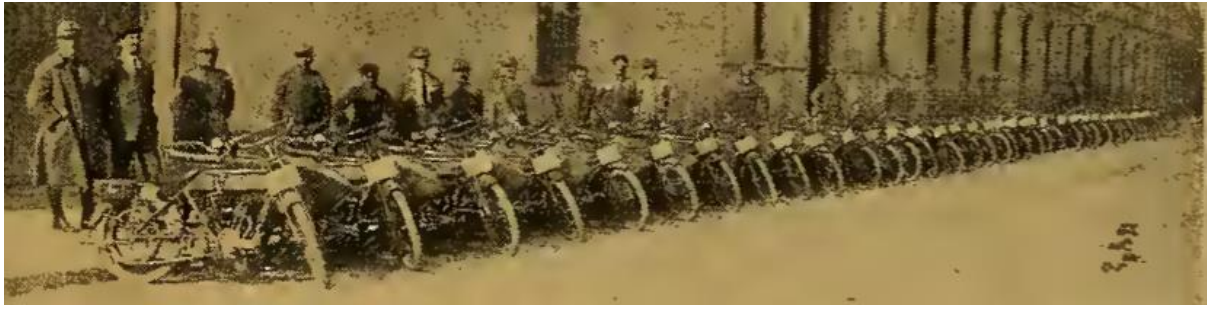
Japanese rider, British bike. So no change there then.

“A JAPANESE MOTOR CYCLE CLUB: A motor cycle club has been formed in Tokio by the local agents for the Indian motor cycle. It celebrated its first run the other day, from Tokio to Hakone, a distance of sixty miles. The destination is a pretty place famous for its scenery and hot baths.”

“MOTOR CYCLE POLICE: While, up to the present, the British police do not use motor cycles officially...three Powerplus Indians have been purchased by the Central Police Office in Tokyo, Japan, and also that their numbers will be increased shortly. Indian motor cycles are also used by the Imperial Japanese Post Office. Once upon a time the West led the East. Is a change under way?”

“WIT ON THE BENCH: Recently before the Kingston county magistrates a motor cyclist named Cedric George Hyde Anderson Horace Maynard was summoned for using a cut-out on his motor bicycle. ‘Is this one person?’ asked the Chairman. ‘Yes, sir,’ replied PO Beck. ‘It is an unusually long name.’ The Clerk: ‘We ought to charge extra for making out the summons.’ (Laughter.) The defendant was fined £1.”

“CHEAPER MOTOR CYCLES? English makers have usually admitted that we should never see really cheap motor cycles until we got enormous factories supplying an enormous market. In America we see both, and, as consequence, you can buy (or, I should say, could buy in pre-war days) a first-class machine at a price which would be sensational in this country...A £60 British 3½hp represented from twenty to thirty weeks’ wages for a British working man. A £55 Indian ought not represent more than eight or nine weeks’ wages to some American mechanics.”



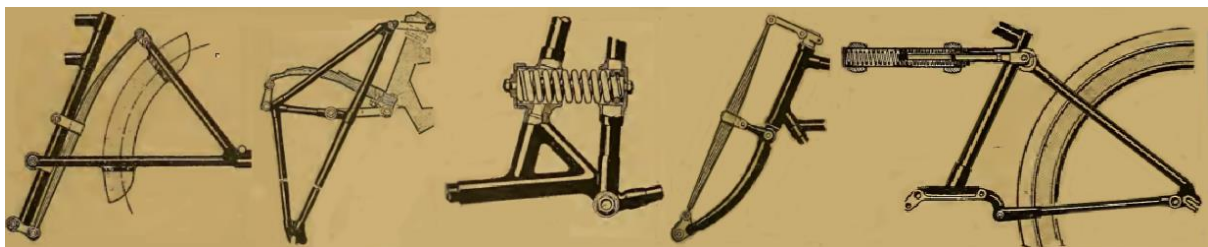
“Italian WD motor cycles: A batch of 6-8hp Stucchi sidecar outfits ready for delivery to the Italian Flying Corps.”

The following two-parter has little to do with the history of motor cycling; it is included here because it is a wonderful example of Ixion at his passionate, lucid best.

“ONE OF THE FIELD CENSORS added a sneering foot-note to a BEF correspondent’s letter to us, suggesting that any man who had the time, money, and health to motor ought to be in France. I should like to stand up for the average munition worker...As a trench poet put it, ‘the maximum of danger means the minimum of pay’, and some of us wish that at the outbreak of war the entire nation had been mobihsed, and put on rations, and that ‘pay’ or ‘wages’ had ceased for the duration...The question of pay or wages apart, I feel a certain sympathy for the munition men, in the teeth of the sneers that are showered upon them so freely by people who should know better; and here goes to state that sympathy...what the munitioner makes in money he loses in health. We have all seen pale, pigeon-chested youths with a recurrent winter cough and a morning huskiness go into the Army, and reappear as chesty athletes with the torso of an Apollo and the voice of an auctioneer. The munition hands of all the belligerent countries are making their sacrifice. It is not as picturesque as death on the field of battle, but it is written in its own grim casualty lists, and the civilian doctor is beginning to know something about it. He will know much more about it after another ten years. Money is not everything; the mere prolongation of life is not everything. The infantrymen who come through the hell of Flanders may sometimes envy the shellmaker now; they will not envy him in five years’ time...For these reasons I cannot endorse the common sneer about the munition man’s piano or sidecar or week-end. If I were Prime Minister, and the resources were available, I would see that every man and girl in the munition factories had a sidecar and plenty of petrol; nothing would do more to cancel the disastrous physical effects of long hours of indoor work at high pressure, amidst fumes or racket, or dust or heat. People denounce the strikes and labour troubles which occasionally complicate the munition problems, few and unimportant as they really are when you look at the thing in the large. Why have sporadic labour troubles occurred? German pay? Natural disloyalty? Temperamental inability, due to want of imagination and education, to visualise great historic developments, as compared with petty personal troubles and frictions? None of those things go for much. Just as you, dear reader, are irritable and touchy and unreasonable to the missis when you are fagged, so have our overstrained munitioners suffered from ragged nerves and jaundiced judgment from time to time under the intolerable strain of years of overtime at an exhausting job. If we could only endow the white-faced strained munitioner with the deep chest and bronzed health of the fit infantry private, there would not have been a labour stoppage in England since war began. And if I had to choose between two deaths, I’d rather pass with the mere lightning impression of a world-shattering concussion from a ‘Jack Johnson’ in Flanders than cough my soul out slowly in a garret in Birmingham, with the wife and kiddies growing thinner every day. No There isn’t really a lot to choose between the trenches and benches. The trenches offer, physically speaking, a man’s life, and, if need be, a

man's death. The benches offer a dog's life and a dog's death, if you do your best at them, as you should; and do not lose time, and booze, and sneak out to snatch a furtive smoke. But if there were no benches, there would be no trenches, and vice versa. So it is useless to argue and compare. The one fact which needs stating, as Tommy following up the barrage knows, is that the factory hands are doing their bit in this war, and it warms my heart as much to see Jack out in a sidecar with a flapper on Sunday as it does to see Tommy sweating down Victoria Street on leave with his pack and tin hat and rifle; though I wish they could fix up for his clobber to be left on the other side, for Jack does not cart his toolkit round with him on Sundays."

"THE BENCHES AND TRENCHES: A week or two ago, being very profoundly touched by some sneers aimed at munition workers in my presence, when I was fresh from learning some tragic facts about certain munition hands who were worked to death in 1914-15, I penned some rather violent and exaggerated words comparing the benches with the trenches. I quite expected to be adequately 'ticked off' from the trenches for this offence: for in cold blood I fully realise that no such comparison is fair, and that no munitioner has ever suffered, or could ever suffer, what the infantry in Flanders have borne during the last month, for example. But the soldiers let me down very lightly, realising perhaps that many munition workers, and notably some of those who are physically unfit for soldiering, have played the hero in this war, and are now paying for their self-sacrifice. The only criticism addressed to me personally was a quiet request that I should read, mark, learn, and inwardly digest 'Under Fire', which I have done. I think it was high time somebody spoke up for the munitioners, and I am glad I did it; but I do not seriously wish to pretend that the average munitioner's part in this war compares with the average fighting man's...We all know there are munitioners who have earned colossal wages ever since 1914 without any detriment to their health, who have spent their royal earnings in orgies of self-indulgence, and have hampered output callously. It is this small percentage of black sheep who have inspired sneers which are a gross insult to most of those who work at the benches. My words were provoked by two death beds [*lxion, let it be remembered, was a parish priest so he is doubtless talking from direct, painful experience*]*—one of a girl, who had worked till she dropped, without complaining, and who died at the end as quietly and simply as a good soldier dies; the other of an elderly man, who, after giving his only son, laboured at the factory for excessive hours until he could work no longer, and passed to his rest in sublime unconsciousness of the fact that his death compares in self-sacrifice and gallantry with a soldier's death. We keep a more wary eye on the benches nowadays—such things are probably impossible in 1917. But in 1914 they were possible, and they occurred. When we think of the fallen we must remember such stay-at-homes as these.*"



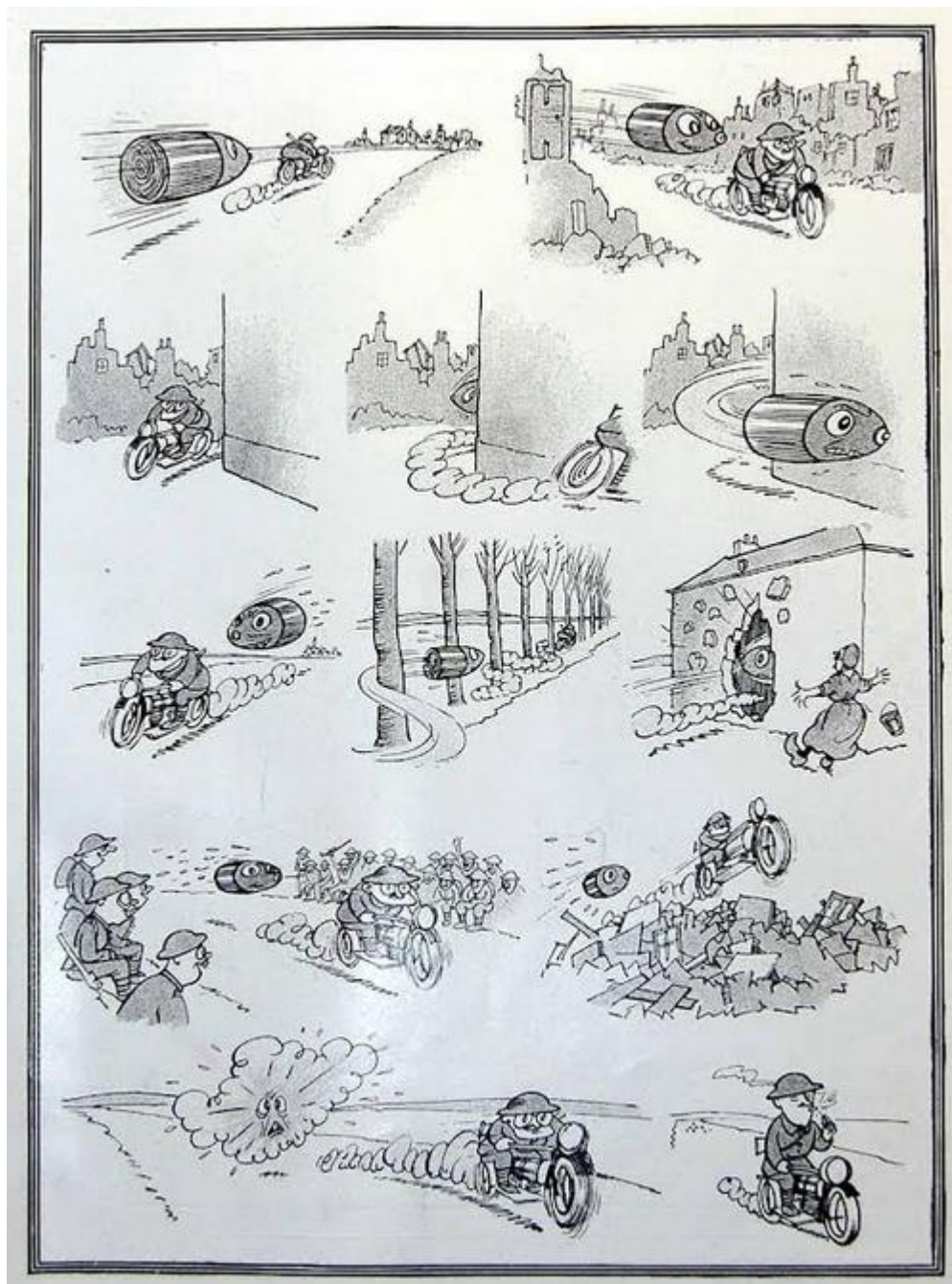
With everyone concentrating on the war no-one was launching major new models—but, with an eye to war's end, R&D didn't stop, witness these patented suspension designs from (left to right) Precision, Sunbeam, Douglas, Precision again, and James.

"SPECIALISING IN MOTOR CYCLE ENGINEERING—A Co-operative Scheme between the Trade and the University of Birmingham for the Technical Training of Incipient Motor Cycle Designers and Manufacturers: An item which is of general interest to motor cyclists, particularly those of

youthful age, who intend to adopt motor cycle engineering as a profession is the decision arrived at by the Cycle and Motor Cycle Manufacturers and Traders' Union to donate, from the funds of the Union, a yearly sum to the Birmingham University to encourage students to specialise in subjects connected with this industry."

"MOTOR SPIRIT FOR TRIAL RUNS: The question has frequently been asked as to whether it is permissible to give a trial run on a motor cycle which may be offered for sale; and although nothing definite has been decided on this point...we think that, if it can be proved that the seller is either going to or coming from a trial run for the purpose of a sale, it is unlikely that proceedings will be taken against him."

"A WARNING: To those motor cyclists who have not taken the latest Motor Restriction Order seriously we would give a word of warning. Even though motor cycles are being used for business purposes, there is a likelihood of proceedings being taken if other means of locomotion are reasonably available. It is the fixed determination of the authorities that the provisions of the Order shall be observed with the utmost strictness."



'Magic shell', by

HM Bateman.

MOTOR CYCLING MUNITION WORKERS formed the National Motor Cyclist Fuel Union "whereby representations could be made to the authorities with a view to securing the allocation of a sufficient quantity of petrol to permit of munition makers journeying to and from home and work". The ACU backed the union and undertook to "act as its mouth- piece in any dealings which were made with the Government".

"SALE OF DOUGLAS SERVICE MOUNTS: The sale of overhauled Douglas Service mounts and sundry stores and spares recently announced took place at a depot at Lee, SE. A WD fetched top price. An overhauled 1915 realised £42, and an earlier model £22. A 'sporting' model had a three-gallon petrol tank! War Service Triumphs and P&Ms figure in the next sale."

“THE KING OF SPAIN’S CUP: the annual race for the King of Spain’s Cup, which is equivalent in Spain to our TT race, recently resulted in a sweeping victory for amateur riders. Harley-Davidson machines seem to have figured prominently, coming in first, second, fourth, fifth, and sixth, while in the sidecar class machines of the same make finished first, third, and sixth.”



Lliva

(extreme left) won the sidecar class in the 'Spanish TT'; next to him is Capel, who won the solo class.

“THERE IS NO CLOTHING which can ever make a pretence of keepng a motor cyclist warm in winter. If you don a trench ponyskin jacket under a high-flying aviator’s kit, they will suffice to slow down the inevitable radiation of such heat as you possessed when you were fool enough to leave home. Start- ing at a high temperature and keeping the ride short are the two cardinal points. The first is secured by a half hour doss in the nearest bakehouse oven before the temporary insanity of starting out overtakes you. The second is automatic; within half an hour you will certainly be so cold that you will get off and cry. Crying will not warm you; it is wiser to push the machine fast up the nearest steep hill; if overtaken by frost-bite in the Fen district, try pushing the machine with low gear engaged and the valve lifter down, which is tolerably efficacious...whilst on this subject, I may add that it is the height of folly to use your flapper bracket in winter time for any other purpose than carrying Thermos flasks and Primus stoves. I know that the proper occupant looks ‘extra’ in a little fur cap with a red top to it, and a suggestion of ermine at her throat; and if she steadies herself properly against you, an illusion of warmth may be created. The warmth is illusive, I say, because the head draught on your forward aspect will soon cool your front half, and she will conduct off any heat from your hindmost longitudes; so the only difference her presence makes is that you will be stone cold fore and aft instead of only fore. Above all, don’t think of her as she looks when she trips down the steps of her parental domicile to take her seat. Think of her rather as she will be five miles along the road. Her nose blue, her toes frostbitten. Her temper——! I would save you from becoming a life-long misogynist, if possible for I admit, with reservations, that the little things are not bad in their proper place and at proper times. In winter their proper place is a cosy corner, not a flapper bracket.”



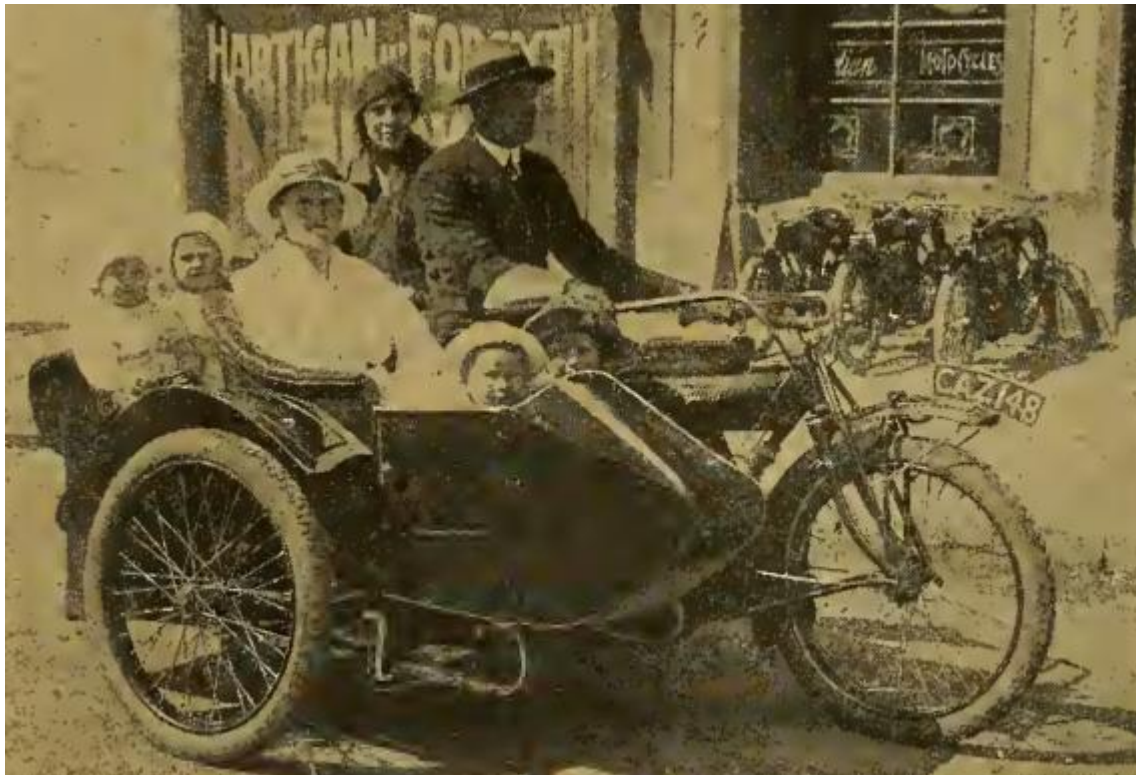
“Warm and dry...How to keep warm in winter (our artist’s opinion).”

“A CORRESPONDENT IN AN American contemporary explains how, having fallen off and utterly smashed his carburetter float chamber, he managed to get home on a scooped-out lemon functioning in place of the float chamber! Has anyone tried a banana as a sparking plug?”

“THOUGH THE BEST AMERICAN productions are good in many important respects, the detail design is generally of a nature which simply would not be tolerated by any British factory of repute. One is overwhelmed by the confusion of rods and bell- crank levers, cantilevers and hinges operating the clutch and gear box, and the sensations of the tyro gazing upon this chaos of disorder can well be imagined. But though the methods of application are generally crude and ugly, the ideas carried into effect are good. The duplicate clutch control is an excellent system, as also is that of so connecting up the clutch lever that a continuation of the declutching movement brings the foot brake into operation, the brake normally being independent.”

“FROM A SUMMONS AT A SE COURT last week it appears that the police are using motor cycles to enforce the new Order. A police inspector, in evidence, stated that he mounted his motor cycle and overhauled and stopped the driver of a car. The latter was fined £14 for not having a petrol permit and using an improperly registered car.”

THE ENGINEERING STANDARDS COMMITTEE published reports on ‘British Standard Dimensions’ for wheel rims and tyre bands; magnetos; and spark plugs.



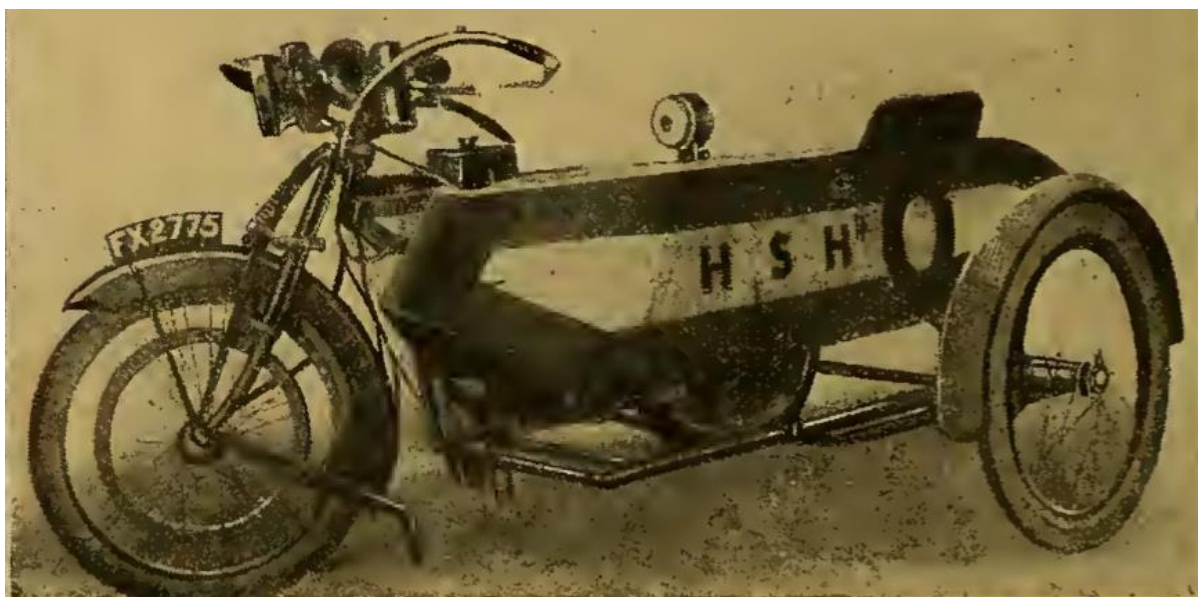
“A

full complement: An East London (South Africa) motor cyclist, Mr Van Den Berg, of the Police Department. He does not believe in taking his pleasure singly, as will be gathered from the photograph. The dicky seat on the back fits over the chassis of the sidecar, and takes only a couple of minutes to fix.”

“IN THE FUTURE TWO WELL-KNOWN American motor bicycles which have been sold in this country will be made in the same factory. These are the popular four-cylinder Henderson and the Excelsior. All the Henderson staff and the machinery of the factory were moved to the Excelsior works at Chicago...Mr TW Henderson, president of the Henderson Co, will in future act as general sales manager of the joint company.”

“RECENTLY WE STUMBLED ACROSS two cheery Australian officers but for an airing—we did not say joy riding—on a Triumph and sidecar. One of these debonair giants was obsessed with a grievance to the effect that the sidecar wheel would lift clear of the road on every left-hand bend—and this despite the fact that his passenger must have scaled something in the vicinity of sixteen stone! ‘How could he stop the beastly thing?’ was his much-vexed question. After a long discussion, these two sporting warriors reluctantly managed to convince each other that ‘it must be because we take corners too fast’. We timorously endorsed the theory.”

“A LITTLE BIRD—POSSIBLY A PEACE DOVE—tells me that the first aluminium motor cycle cylinders are already on the road,” Ixion revealed. “I hope they are coming commercially, but with the prettiest of all metals at £225 a ton, or thereabouts, it’s a long, long way to Tipperary. The experiment is a huge success. The engine keeps unbelievably cool. I do not fancy that appearance counts for much, or some American machines would have been turned back at Liverpool by outraged Customs officers; but for those who like appearance, let me say that neither rusty cast iron nor neatly radiolened cast iron can compare with machined aluminium in perfect beauty.”



“A sidecar by Mr HS Ham, of Weare, Somerset. The sidecar, which is made of three-ply ash, is of similar design and colour to the tank of the BSA motor cycle to which it is attached.”

“IN DEFENCE OF THE MOTOR CYCLE TRADE: Sir,—It is now more than ever evident that the Government are treating motorists and the motor trade, under the guise of national necessity, in an absurd and ignorant manner, and in a way which is likely to kill the motor cycle trade for years after the war is over. Their method is not helping the progress of the war, nor conserving the petrol supplies of the country, as might be done by more intelligent treatment, and, as one of the motor cycle traders, I think it now behoves us to get together before it is too late and protest most strongly. The aim of the country is to conserve petrol, and the Government method of conserving anything is to treat it drastically without the least consideration of expert knowledge. They simply say, ‘Close up this business’, and that’s an end to it. They can only do this in those cases where they have no strong opposition, and that has been the reason why the motor trade has had such drastic treatment, as we have accepted all those restrictions without any opposition and in a patriotic spirit. Had we been a labour or trade union strongly represented things might have been different...The war is not going to be won by putting traders out of business, and the motor cycle trade has a very strong right to put forth its claims for existence in the national interest...High-powered cars should be barred where unnecessary, and replaced with lighter cars or motor cycles and lighter cars where unnecessary should be replaced by motor cycles, the whole idea being to bring down the petrol consumption while still endeavouring to let the respective trades carry on. If we are to get on with the war we must have some business left in the country to meet expenses. I address this letter to brother agents and traders. We have the right to carry on business; we have accepted too many restrictions without proper protest. Let us now organise and protest effectively. We have a strong case for proper treatment and attention, and with the satisfaction of knowing that we can serve the interests of the State in the economy of petrol by more extensive use of the motor cycle, we should not now delay a moment but get to action....If we do not do something now and at once, we may as well shut up our premises, which is evidently what the Government are trying to do for us.

A MOTOR CYCLE AGENT, Edinburgh.“

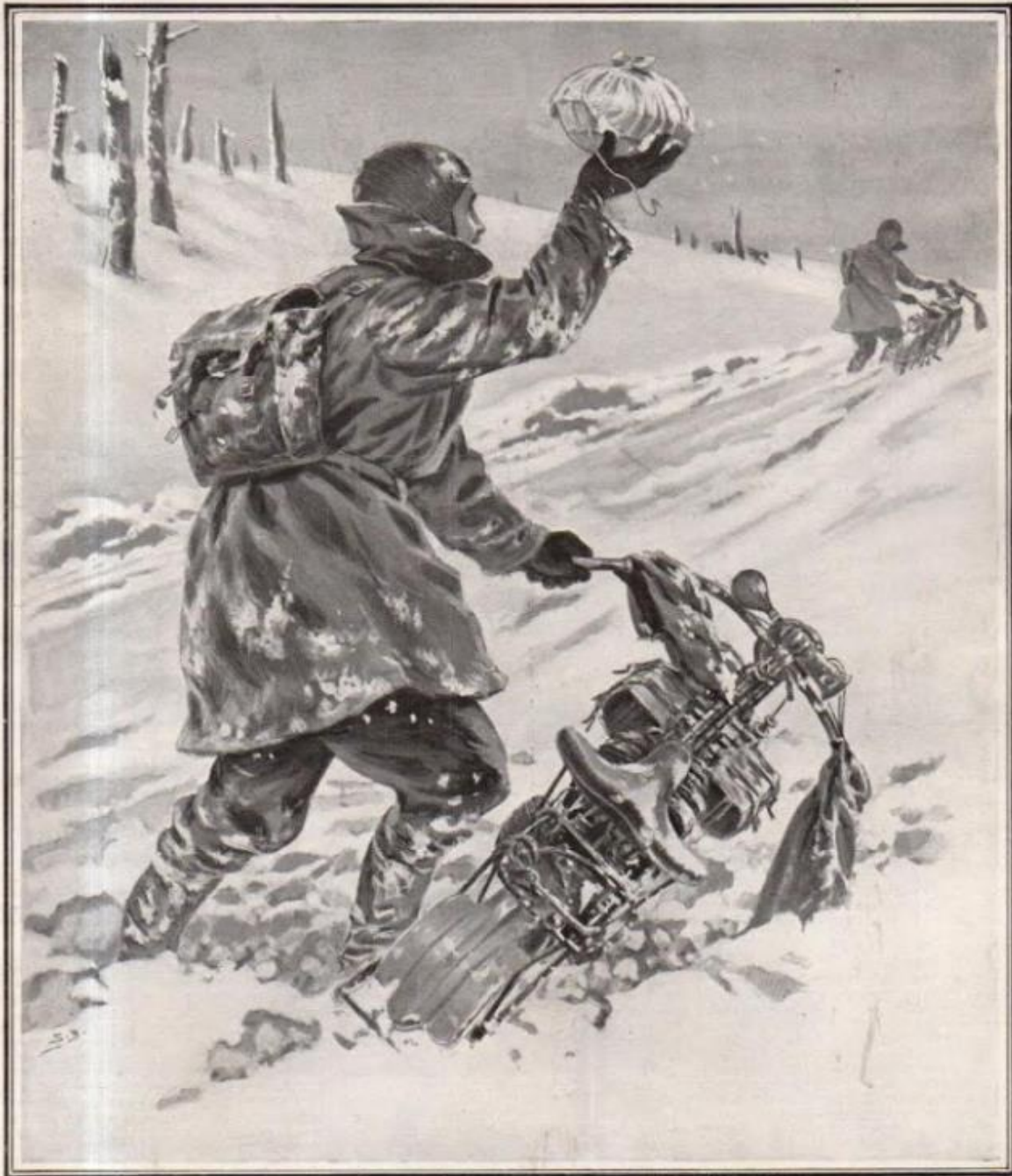
“INEFFICIENT SILENCERS—NOVEL POINT FOR WD: CS-Maj W Ward, of the MT works depot, ASC, was summoned at Bromley for using a motor cycle with an inefficient silencer at Chislehurst Hill. PS Farley said the machine was making a loud noise. On examination he found two slits, no baffle-plates, and no means of closing the slits. Defendant told him the machine

was standard. Lt Noble, MT, said he inspected the machine shortly after. The slits were 1/16in in diameter and identical to thousands turned out since 1915 and accepted by the War Office. Lt Sugden, of the MT works depot, ASC, gave texhnical evidence in support, If the police contetion were upheld, he said, it would mean the overhauling, and perhaps scrapping, of thousands of Triumph motor cycles now in use by the WD. The Bench were of the opinion that the silencer did not comply with the regulations, and a fine of 10s was imposed. Defendant said he was doing his duty and could not pay. Fined for a similar offence, Cpl A Green, ASC, MT, said he declined to pay the fine. Another defendant was allowed a week for payment.”

DURING THE YEAR the number of motor cycles in use by the Army rose by 91%.



“Official photograph showing machine gunners wearing their trophies.”



A SPILL FOR THE CYCLIST, BUT THE CHRISTMAS PUDDING INTACT: A BRITISH DESPATCH-RIDER COMES TO GRIEF IN THE SNOW, BUT SAVES HIS PRECIOUS CHARGE.

This illustration appeared in the *London Dispatch* dated January 1918.

“OUR CHRISTMAS GREETINGS: The old and hackneyed phrases fall short of the time and condition of things, for many of our old friends, we realise, will be living, when this issue reaches them, amidst conditions that hardly coincide with the cap and bells of the jester’s heyday. Therefore, we cannot do more than wish them all a speedy and glorious return to the old country, in whose cause they are sacrificing so much...Next Christmas, let us hope, we shall be able to celebrate the season as never before—a frosty spin by highway and byway, a cosy fireside with plenty of good cheer, both mental and physical. It is a thousand pities that the old customs, with their atmosphere of unity and good fellow- ship, should die, and, though to-day

we are scattered about the globe, let us hope that the season will not be passed without some sense of goodwill—even though peace on earth be impossible.”

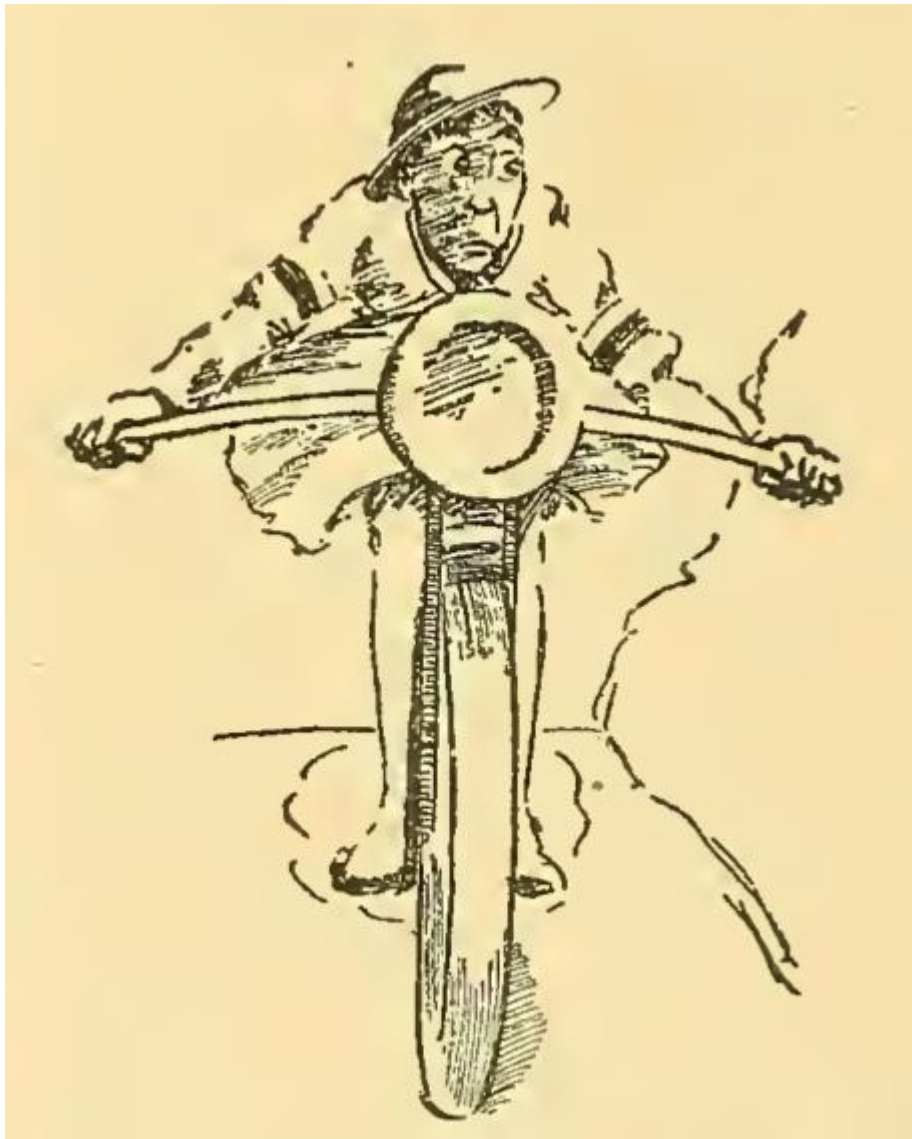


“A greeting card

received by the Editor from the boys of the 3rd Army Signal Co, France.”



“Among the many greetings cards received from the boys with the various Expeditionary Forces is an amusing one from a Signal Company attached to the REs. The inscription reads: ‘Cheerio! Hlala Gahle! Alles Zal recht Komen. Apres la Guerre...*We’re often in the mud, But never in the dumps: The country side’s aflood, There are bombs and frightful crumps. The Boche is not a sport, He doesn’t play fair cricket: So till he has been taught We’ll simply grouse and stick it.*’”



"A humorous Christmas card received by the Editor. It is briefly inscribed "From 'O' Corps, DRs, BEF."



“From Ruhleben: a Christmas greeting card received from Mr. T Hilger, now a prisoner in Ruhleben. He inscribes the card, ‘How to keep cheerful read the the Blue ‘Un. I still get it.’”



Some lucky riders were still able to post their Xmas cards back in Blighty.

...And that's about it for another year. *The Motor Cycle* ran a couple of lighthearted Xmas stories but they weren't up to much and, with pleasure motor cycling virtually eradicated and the pioneer generation of enthusiasts living and dying in the global conflict silly stories seem somehow irrelevant. So let's pass on to 1918 with a selection of contemporary adverts.

RIDER TROWARD & Co.

SELECTION FROM STOCK.

New 1917 Models.

ALLDAYS ALLON, COVENTRY EAGLE, JAMES,
NEW IMPERIAL, ROYAL RUBY, and ROVER.
Lists free.

Second-hands.

BROUGH, 1916, 3½ h.p. twin, Sturmey countershaft gear	59 gns.
DOUGLAS, 4 h.p., 3-speed, coach Sidecar	59 gns.
ENFIELD, 1916, 2-speed, 2-stroke	27 gns.
EXCELSIOR (American), 7-9 h.p., 3-speed, dynamo lighting, coach Sidecar	69 gns.
ENFIELD, 1915, T.T., 3 h.p., 2-speed	32 gns.
F.N., 7-9 h.p., 4-cyl., 3-speed, coach Sidecar, mileage 4,000	73 gns.
HARLEY-DAVIDSON, 1915 Standard, 7-9 h.p. Combination	65 gns.
INDIAN, 1916, 2-stroke, 2½ h.p., 3-speed, clutch, kick-starter, as new	37 gns.
INDIAN 1916 Powerplus coach Combination, 7-9 h.p., 3-speed	78 gns.
INDIAN, 1915 T.T., 7-9 h.p., clutch	39 gns.
JAMES, 1917, de Luxe Combination, Lucas dynamo lighting	79 gns.
LEVIS, 1915, 2½ h.p., 2-speed	26 gns.
O.K.-J.A.P., 1916, 2-speed	26 gns.
PREMIER, 1915, 7-9 h.p., 3-speed, 30 gns. ; with coach Sidecar	59 gns.
DOUGLAS, 1914, T.T., 2-speed, perfect ..	38 gns.
RUDGE Multi, 1917, as new	49 gns.
RUDGE Multi, 1914, T.T. model	27 gns.
SCOTT, 1915, coach Combination, as new ..	58 gns.
TRIUMPH, 1914, 4 h.p., 3-speed	38 gns.
With coach Sidecar	47 gns.

All Machines Sent on Approval.
"Motor Cycle" System if desired.
*Phone 5392. Open 8 p.m. and Sundays.

31 & 78, HIGH ST., HAMPSTEAD.

HENRY NOTTBECK

The only Harley-Davidson Agent
with Milwaukee Factory Experience.

SECOND-HAND HARLEYS.

1916 J and Sidecar, fine order ..	£90 0
1916 F, solo, new tyres, splendid order	£70 0
1915 M.A.G. Model, overhauled ..	£60 0
1915 J and Sidecar	£62 10

OTHER MACHINES—Offers wanted.

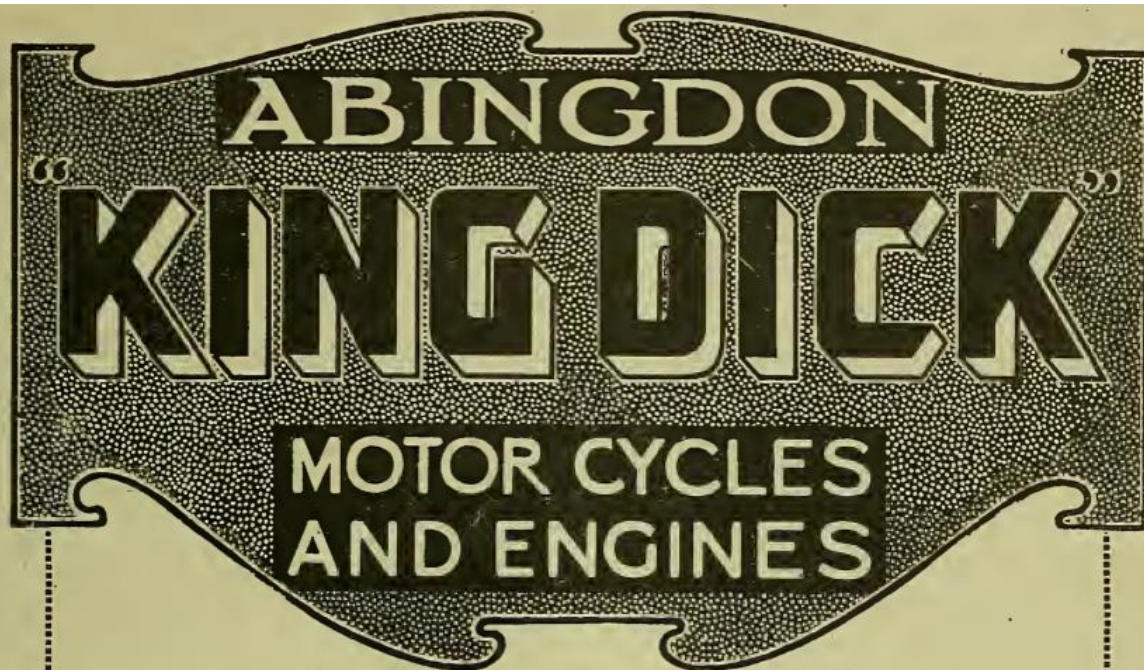
ABINGDON, T.T., 1912.	
HUMBER, good order, 2-speed.	
1915 RADCO.	
1915 ZENITH, 8-10 h.p., clutch, sporting Sidecar, fine lot	£65 0

SIDECARS.

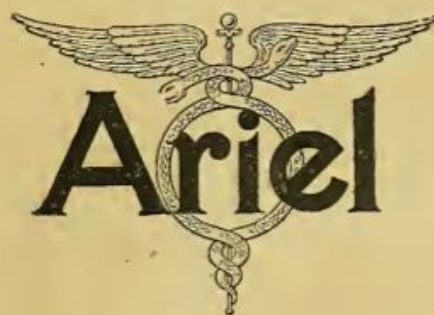
Millford Empress, suit Indian or Harley	£18 0
Indian 2-seater Millford	£10 0
Canoelet, suit 3½-7 h.p., 1916	£7 10
Canoelet, H.-D. Model	£7 10
H.-D. Phoenix	£10 10

37, Turnham
Green Terrace
near Turnham
Green Station,
LONDON, W.





Orders executed as the requirements of H.M. Government permit.
Abingdon Ecco, Ltd., Abingdon Works, Tyseley, Birmingham.
LONDON : G. H. SMITH, MORTIMER STREET, W.



When you see a motor
cycle branded with
this trade mark, it's
the Ariel — by achieve-
ments the machine of
supreme and unchal-
lenged reliability.

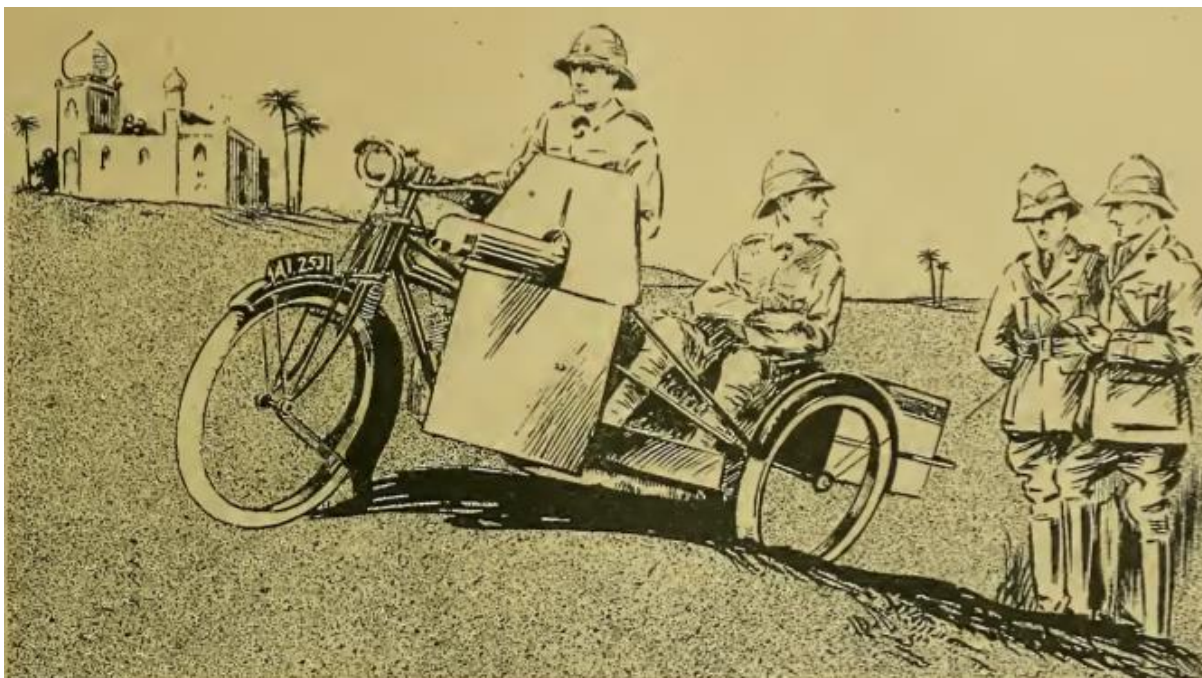
ARIEL



**THE MOTOR CYCLE OF SUPREME
RELIABILITY BY ACHIEVEMENT**

Art List post free.

ARIEL WORKS, Ltd., 3, BOURNBROOK, BIRMINGHAM.



Supremacy Consolidated.

Ariel machine gun outfits have made good. By carrying on, under almost insuperable conditions, the Ariel has consolidated its position of reliability supremacy so firmly established in pre-war days.

Also in all other branches of the service, Ariel's have maintained their unchallenged superiority.

Art list post free.

ARIEL WORKS, LTD., 3, BOURNBROOK, BIRMINGHAM.

90%

of the ALL-BRITISH
MAGNETOS supplied
for WAR PURPOSES have
been MANUFACTURED
by MEMBERS OF THE

BRITISH IGNITION APPARATUS ASSOCIATION

This advertisement is issued by the following members of the Association: British L. M. Ericsson Mfg. Co., Ltd., Beeston, Notts; British Thomson-Houston Co., Ltd., Coventry and Willesden; British Westinghouse Elec. and Mfg. Co., Ltd., Manchester; E.I.C. Magneto Ltd., Birmingham; Fellows Magneto Co. Ltd., Park Royal, London; M-L Magneto Syndicate Ltd., Coventry; R. B. North and Sons, Ltd., Watford and London; T. Johnson-Bennett Magneto, Ltd., Birmingham.

We regret

BOWDEN Wire, Limited, London, regret to announce that, being wholly engaged upon production for the British and Allied Governments, they are unable to execute any orders for private purposes until further notice. They have in stock certain goods suitable for replacements. Customers are invited to state their requirements in this respect, and, if possible, these will be met.

BOWDEN
WIRE LTD
LONDON

Godbolds

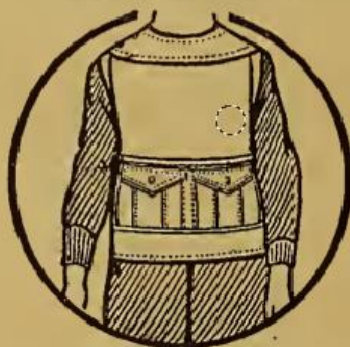
A manufacturer who supplies Magneto Parts from stock.

Recollect, we can supply the worn or missing part which is required to restore your magneto to its original condition. We manufacture "spares" for magnetos of all makes, so are able to quote attractive prices. If your machine needs thoroughly overhauling, send it on, and we will return it like new.

SIMMS MOTOR UNITS, LTD.,
PERCY BUILDINGS, GRESSE ST.,
RATHBONE PLACE, LONDON, W.

IF

YOU WANT YOUR SOLDIER TO BE AS
SAFE, AS HAPPY, AS WARM AND
COMFORTABLE as human ingenuity can
ensure, send him a



"CHEMICO" FABRIC BODY SHIELD.

SHRAPNEL PROOF.
REVOLVER FIRE PROOF.
THE BAYONET DEFIED.
WARM AS A JERSEY.
PROTECTS CHEST, SIDES, BACK, AND
ABDOMEN.

NO METAL. NO RICOCHET.

SEND FOR LITERATURE,

Copies of Testimonials, etc.

HUNDREDS OF LIVES SAVED.

THE COUNTY CHEMICAL CO., Ltd.
Chemico Works, BIRMINGHAM.

ELCE

CASH. EXCHANGE. EXTENDED TERMS

SIDECAR COMBINATIONS.

- 1917 **MATCHLESS** Combination, 8B, M.A.G. engine, spare wheel and tyre; as new, only ridden 3 times £120
 - 1916 **HARLEY - DAVIDSON** Combination, 7-9 h.p., electric model £85
 - 1916 **SUNBEAM** Combination, 8-h.p., Lucas lighting set, speedometer, horn, mud-shields, screen, spare petrol tank, interchangeable wheels, splendid condition .. £115
 - 1916 Powerplus **INDIAN** Combination, spring frame, dynamo lighting, T.T. bars, unscratched £85
 - 1915 **INDIAN**, 5 h.p., and Swan torpedo Sidecar, lamps, horn, speedometer, finished throughout yellow £45
 - 1914 **MATCHLESS** Combination, 8 h.p., M.A.G., lamps, horn, speedometer, luggage grid, just been thoroughly overhauled £68
 - 1916 **B.S.A.**, 4½ h.p., chain-cum-belt, and Millford Sidecar, lamps, horn, etc. £65
 - 1915 **HAZLEWOOD** Combination, 5-6 h.p., J.A.P. engine, 3-speed, clutch and kick-start, lamps, and horn; good condition £40
- Any of the above can be converted to run on coal gas.

SOLO MACHINES.

- 1917 **ZENITH** Gradua, 4-5 h.p., clutch, kick-start, as new, only ridden a few miles .. £73
- 1917 **ROVER**, 3½ h.p., T.T., Philipson pulley, lamps, horn, as new £50
- 1917 **NEW IMPERIAL-J.A.P.**, 2½ h.p., 2-speed, clutch, kick-start, T.T. bars, as new, bargain £30

15-16, Bishopsgate Avenue, Camomile Street, E.C.3.

'Grams: "Elcemocyea, London."
'Phone: Avenue 5548.

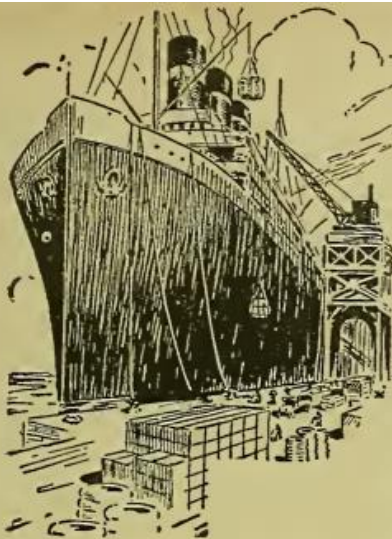


Douglas

Defied Tradition

Douglas determined to produce a new and more efficient machine than had been produced before. The result of his determination to excel was the famous little Opposed Twin engine — the engine which has made the Douglas the most popular and successful machine in the world. Do you ride a Douglas?

DOUGLAS BROTHERS,
Kingwood - BRISTOL.



FOOD or TYRES?

SOMEWHERE, lying alongside a quay in a seaport of a country taking no active part in this war, is a transport actually accepting as a preferential cargo tyres instead of food for this country. We DON'T need tyres, but we DO need food, and in view of the recent import restrictions rendered necessary to maintain Britain's food supply

SHOULD THIS CONTINUE?

To substantiate the above statement, the Board of Trade returns for 1916 show that £2,423,865 went out of this country (think of this fact alone!) in the purchase of these imported tyres, the conveyance of which meant a loss of nearly two million cubic feet of shipping space for the transport of food and munitions.

This must be stopped; it can be stopped, if every British user will purchase only British tyres. British tyre manufacturers have ample facilities to supply every home need.

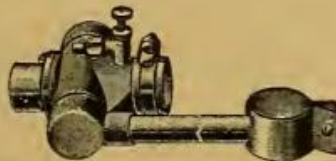
Remember, not all tyres with British-sounding names are British, but the adjoining list, although not complete, affords you a choice of fifteen all-British products.



ALMAGAM
AVON
BATES
BELDAM
NORTH BRITISH
CLINCHER
DUNLOP
HENLEY
KEMPSHALL
LEYLAND
MACINTOSH
MIDLAND
MOSELEY
PALMER
SPENCER-
MOULTON
WOOD-MILNE

The "GRADO" Paraffin Vaporiser

Motor Cyclists! here is a device which will enable you to run on paraffin and get results equal to petrol. It is designed by a practical engineer, and has been well tested. It fits between the engine and carburetter, and is connected to the silencer pipe by the clip illustrated. An injection of petrol through the tap on top starts your engine. Paraffin then does the work.



PATENT No. 13113.

It is just what you require to-day.

The price, all complete, is

35/-

POSTAGE 6d. EXTRA.

Delivery from stock. Order now, stating the outside size of inlet pipe.

The "GRADO" Multi-Pulley.

PATENT No. 27485/13 and 66121/14.

Is simple in construction. Nothing to go wrong. Fits any standard belt-driven machine. Just half a turn of the handle changes from top gear to free engine. So simple.



Pulley fitted to machine.

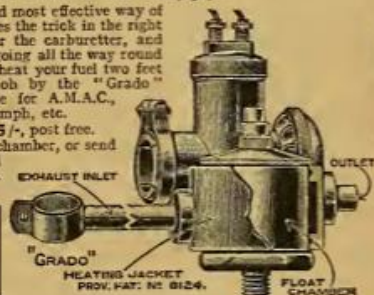
Starts you like a car. The low gear gets you through traffic. The high gear saves fuel and gives you speed. The middle gears are there when you want them. The price, complete, for Triumphs, Bradburys, etc., is £3 3 0. Ball-thrust model, which we recommend, £4 0 0. Light-weight models from £2 10 0. Recessed Pulleys, 10/- extra. Postage, 2/- extra. Delivery from stock. Write for catalogue.

THIS IS THE NEW MODEL The "GRADO" Heating Jacket.

PROV. PATENT No. 8121/1917.

This is the simplest and most effective way of heating the fuel. It does the trick in the right place. Simply fits over the carburetter, and allows of hot exhaust going all the way round it. There is no need to heat your fuel two feet away. Do it on the job by the "Grado" Heating Jacket. Made for A.M.A.C., Senspray, B. & B., Triumph, etc.

Price, complete, is 15/-, post free. State diameter of float chamber, or send carburetter and we will return with one fitted. Order to-day!



GRADO MANFG. CO.,
Pershere Street, BIRMINGHAM.

HANDBOOK OF THE

Hotchkiss Portable Machine Gun.

Published for Messrs. Hotchkiss et Cie.

Price 1s. Net.

By Post 1s. 1d.

From ILIFFE & SONS, LTD., 20, Tudor Street, London, E.C.4.



THIS handbook contains a general description of the gun; full instructions for stripping and assembling, and also for operating the weapon; accidental stoppages and their remedies; cleaning and care, feeding, etc.

Special plates are included, showing the external parts, working parts and accessories, and there are a number of line drawings illustrating the different operations of stripping, assembling, loading, and firing.

Indispensable for instructional purposes to volunteer officers and others who use the Hotchkiss Portable Machine Gun.

KING DICK

SPANNERS



British Made.

"KING DICK" Spanners are British made from solid drop steel forgings, and capable of infinite adjustment. Always grip and never burr the nuts. Remember, every "King Dick" is guaranteed for ever.

See that your spanner is stamped with the mark shown above—the mark of the genuine "King Dick."

Orders dealt with as Government requirements permit.

Abingdon Ecco Limited,
Abingdon Works, Tyseley, Birmingham.
London—G. H. Smith, 12, Mortimer Street, W.

Keep On the Right Road

To
Safety
Economy
Comfort



By fitting

MICHELIN TRIDENT TYRES

Trident Covers, beaded edge	26 x 2 ..	26/6
	26 x 2½ ..	28/6
	26 x 2¾ ..	31/-



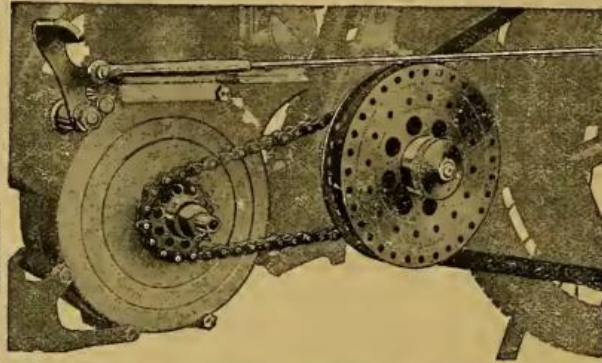
MICHELIN TYRE CO., Ltd.,
81, Fulham Rd.,
Chelsea, S.W.3.



THE RENOLD CHAIN



CHAIN AND BELT DRIVE
3½ H.P. PREMIER.



RENOLD BUSH ROLLER
CHAIN No. 7198.

HANS RENOLD, LTD.,
DIDSBURY,
MANCHESTER.

AND THE MOTOR CYCLE

HANS RENOLD, LTD.,
DIDSBURY,
MANCHESTER.

Volex MOTOR CYCLE LIGHTING.

"VOLEX" DRY BATTERY MOTOR CYCLE HEAD LAMP CUTFIT.

Also supplied in
Sidercar Outfit at
same price.



Includes "Volex" Giant Dry Battery, Conducting
Cord, Switch, and Penetra Motor Cycle Head or
Sidercar Lamp, with Bulbs.

Price 32/6 complete outfit.

The battery can be fitted in Sidercar Bottom or
carried in Satchel which can be attached to the
frame or Motor Cycle. The Dry Battery will
give about 80 hours' light, and will hold up in
stock for over 12 months.

Spare "Volex" Giant Battery, 6/6.



THE "VOLEX" GIANT DRY BATTERIES.

For Motor Cycle and Sidercar
Lighting and Ignition Starting
they are excellent, and have no
superior. "Volex" Batteries are
recommended for export.

4 volts, size 6½×3in. square, 6/6
each. 6 volts, size 6½×4×3in.
8/6 each.

THE "VOLEX" AERO DRY BATTERY. British Made.

A very convenient
size for many pur-
poses, such as Motor
Cycles, Cycle Cops,
etc. Suitable for ig-
nition, lighting, electric
horn operation. Holds
up in stock for years.

4 volts, size 6½×4½×2½in. .. Price 8/6.
6 volts, size 9½×6½×2½in. .. Price 11/6.



THE "VOLEX" EMERALD BATTERY. British Made.

Of particularly heavy capacity,
recommended for Motor Car,
Boat, or Engine Ignition; for
lighting, actuating horn, etc.
Recommended for export, and
in conjunction with our
"Volex" Special Metal Filament
Bulbs about 150 to 200
hours' light is obtainable.

4 volts, size 6½×7½×2½in. .. Price 10/6.
6 volts, size 6½×5½×2½in. .. Price 14/6.



THE "VOLEX" Special Metal Filament Bulb

For use with our
"Volex" Dry Bat-
teries, ensuring
maximum burning
hours. 4 and 6
volts, min screw
cap. 1/6 each. 4
and 6 volts, small
B cap. 1/6 each.



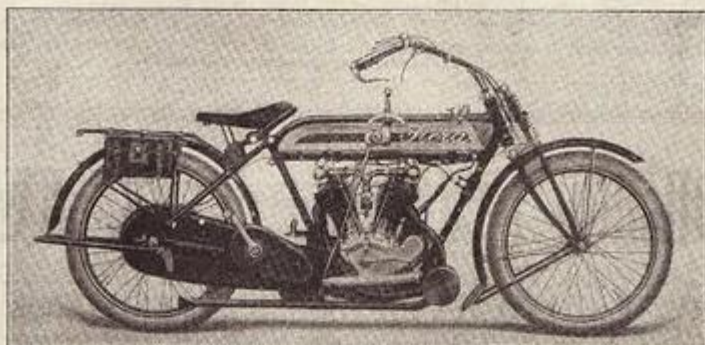
"VOLTALITE."

Self-Generating Electric Motor Cycle LAMP.
British Made. The FIRST Cost the ONLY Cost.
The lamp which produces by the movement
of the machine an inexhaustible supply of
electric light to illuminate brilliantly the
head lamp at no cost whatever. Fitted with
Hoffmann Ball bearings. Complete with
head lamp and metal filament bulb, ready
for use. £4/4. Post free.

Ward & Goldstone
SALFORD MANCHESTER

(Box 17), Sampson Works.
Contractors to H.M. Government.
TELE phone—7083-4-5-6 Central.
grams—"Moltum, Manchester."
Established 1892.

MOTO **FRERA** NUOVO MODELLO 8-10 HP.



a 2 cilindri (a 45°) cilindrata 1140 cm.³
con debrayage e cambio 3 velocità, cambio
a traino-balladeur "in presa".

trasmissione a catena, giunto elastico al mozzo
posteriore, avviamento a manovella,
gomme extra forti 26 x 3 x 2".

La
Frera
8/10 HP modello 1917

Pneus Dunlop

LA PIÙ GRANDE FOR-
NITRICE DI MOTOCICLI
DEL R. ESERCITO ITALIANO

FRERA! LA MARCA
ITALIANA PIÙ DIFFUSA
E PIÙ APPREZZATA ...

ESPOSIZIONE INTERNAZIONALE
DI SAN FRANCISCO

GRAN PRIX

CHIEDERE CATALOGO ILLUSTRATO E LISTINO SPE-
CIALE "SIDE-CARS", DI LUSSO ALLA

SOCIETÀ
ANONIMA

FRERA - TRADATE

||||| CICLI |||||
E MOTOCICLI

TRIUMPH

SI SONO PROVATI MIGLIORI
IN TEMPO DI PACE ED
IN TEMPO DI GUERRA



AGENTI IN TUTTE LE CITTÀ IMPORTANTI
TRIUMPH CYCLE C° LTD
COVENTRY (Inghilterra)

INDIAN & THOR

MOTOCICLETTE AMERICANE

MODELLI 1917

di 6-8 HP - 7-9 HP - 10-12 HP

pronti per consegna immediata

presso l'Agente Generale per l'Italia

MILZIADE RAGNINI



FIRENZE - Via 27 Aprile, 16



MOTORCYCLING
AND BICYCLING

January 8, 1917

New 24-Hour Sidecar Record Set by the

Riding a 1917 stock Henderson, Roy Artley broke the 24-hour world's sidecar record on January 4th!

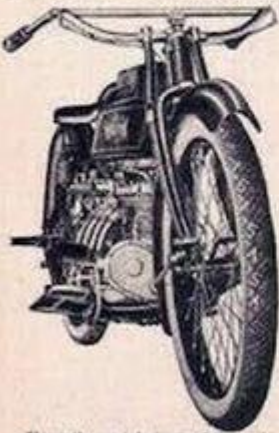
Astride his four-cylindereed mount, Artley sped like the wind over California roads during a day and a night. Though striving to cram as many miles as possible into the twenty-four hours, Artley and his willing Henderson sought no favor—chose no favorable roads.

When the time was up 706 miles had been traversed!

In spite of a terrific gait that knew no cessation until the clock hands had twice circled the face, the gallant Henderson gave no trouble of any sort.

At the end of the long run, despite the fact that it had been through a mile-choking performance that added 122 miles to the best previous record, drawing a sidecar and passenger, the motor was no warmer than if it had been put through a ten-mile work-out!

This should emphatically decide the make of machine you will ride or sell in 1917!



HENDERSON MOTORCYCLE COMPANY

DETROIT

This is the exact duplicate of the machine that broke the world's record. It can be



Le rendement considérable,
la sûreté de fonctionnement
qu'il donne aux moteurs, ont fait adopter le

CARBURATEUR
ZÉNITH

Indian

MOTOCYCLE

1917

HENDEE
MANUFACTURING
COMPANY
SPRINGFIELD MASSACHUSETTS



New 24-Hour Sidecar Record Set by the

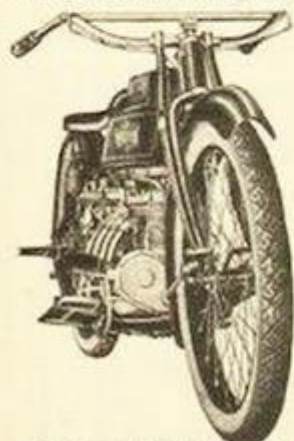


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When the time was up 706 miles had been traversed!

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This is the exact duplicate of the machine that broke the world's record. It can be



Roy Artley

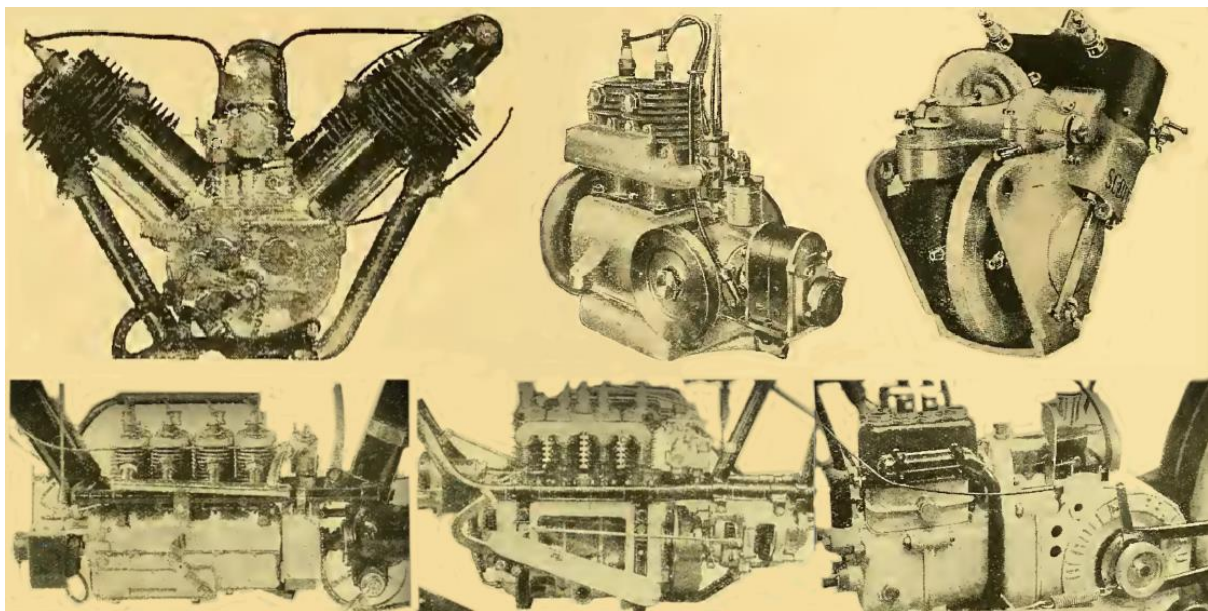
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This should emphatically decide the make of machine you will ride or sell in 1917!

**HENDERSON MOTORCYCLE COMPANY
DETROIT**

1918

THE MOTOR CYCLE'S CORRESPONDENT 'CHINOOK' reviewed the choice of multi-cylinder motor cycle engines and looked forward to the way that wartime developments would influence post-war design. He suggested that three classes likely to emerge were a flat-twin of about 3½hp for solos; a three or four-cylinder design of about 5hp to suit solos or light sidecars (for "riders who are neither speed merchants nor potterers, who like to ride a comfortable and controllable solo mount possessing ample power, and who take a modest delight in occasional speed dust-ups with other riders"); and a four-pot sidecar hauler developing at least 10hp. "Self-contained electric lighting, of course, shaft drive, three or four-speed gear box, and something really attractive in the way of finish", he added. "I would vote for the integral unit system, with a minimum of oil leaking joints...The 90° four-cylinder is another highly possible proposition, having its cranks and flywheel arranged similarly to those of the Scott, but with double big ends and cranks set at 90°. This engine would be easy to house and very accessible, while its torque would be excellent and its balance perfect. It would be vastly interesting to see what could be done in this line." A unit construction transverse four with shaft drive? He must have been mad.



From top left: P&M 90° twin; Premier two-stroke in-line vertical twin; Scott two-stroke transverse inclined twin (which, Chinook suggested, 'might be adapted in the design of a 90° four-cylinder'—but he also scorned the idea of vertical twins so let's not take him too seriously); Pierce in-line four with shaft drive); cutaway FN in-line four 'one of the neatest and most attractive motor cycle units ever produced'; Herdtle-Bruneau 3hp monobloc water-cooled twin.

THE LIEUTENANT-GOVERNOR of Malta allowed motor cycles to be ridden on the streets of Valetta for the first time.

“MOTOR CYCLISTS IN A CERTAIN SE district have noticed that a police superintendent at the local station uses his Enfield combination for his duties and in uniform, and at other times—the week-end occasionally—is to be seen in plain clothes and with a fair lady passenger! It is hardly surprising that the new Order is not being vigorously enforced in this district!”

NEW YEAR, NEW SERVICE: The Auto Cycle Union established the Motor Messenger Detachment Service. “These messengers carry despatch bags on their backs or strapped to their sidecars, in which important despatches are carried between various Government offices. They have a comfortable room in which they may wait at the Central Telegraph Office, in which there is a fire, telephone, and some comfortable chairs, while they have free access to the CTO buffet...the first messenger...was sent away from outside the CTO by Major TW Loughborough, secretary of the ACU, and an official of the GPO. He wore khaki uniform and was riding a 3½hp Sunbeam sidecar combination. We also saw a 3½hp twin-cylinder James, fitted with a wonderful array of additional cooling radiators. Over the exhaust valve cap was an aluminium fin cooler, while the two compression taps were screwed into devices of similar pattern but made of brass. There were as well a 2¾hp Douglas, which was ridden by one of the ACU staff who has joined the Service, and a 4hp Douglas fitted with a EUK easy starter and Senspray carburetter. This latter was certainly a very easy starting machine.”



“A group of ACU, MMD, despatch riders waiting to be sent off. Major Loughborough, secretary of the ACU, is seen in the foreground.”

“LADY MOTOR CYCLISTS: Lady motor cyclists supplied by the Women’s Legion, of 115, Victoria Street, London, are now being used by the RFC and ASC, and are found as useful as the chauffeuses...The Women’s Legion is now giving free instructions in motordriving for Government work with free accommodation during training. The idea is that all Government motor vehicles will shortly be driven solely by “women, although we should imagine that some limitation is bound to be applied in the case of drivers for big lorries. Any lady interested should apply to the offices of the Women’s Legion.”

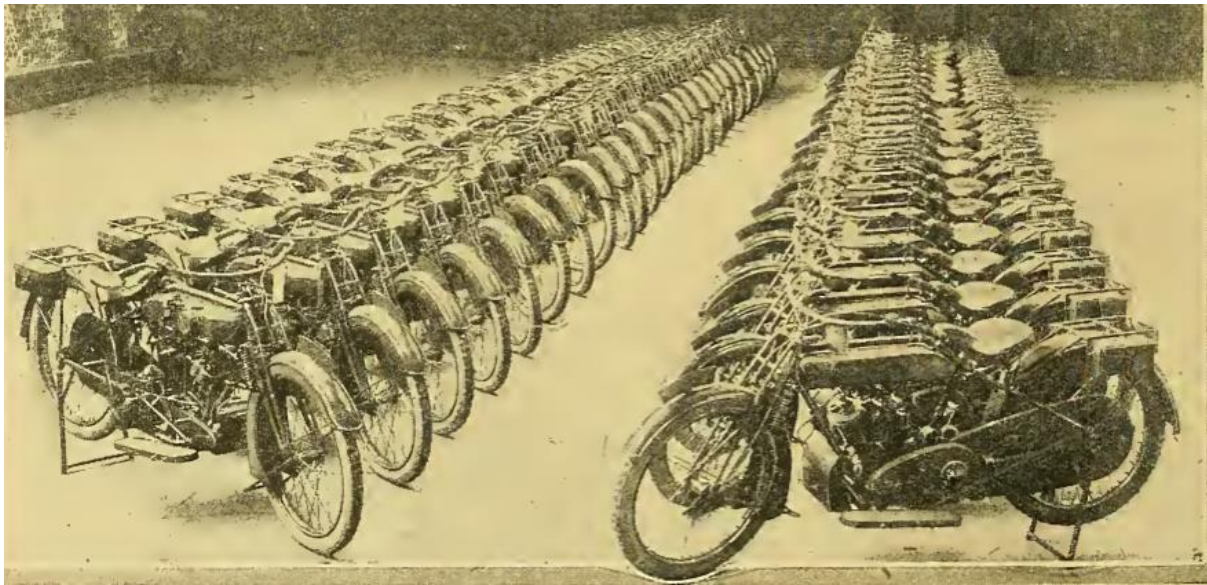
IXION REPORTED: "I GOT OUT on the moors with my old ABC, and a tankful of petrol. The last ime I saw GE Bradshaw, the ABC designer, he was quite out of conceit with the 1914 model, and if he condescended to talk two-wheelers at all, was full of hints about something quite different and entirely revolutionary. But all I can say is that, if he has something better than the 1914 marque up his sleeve, it will be very, very good. After chugging about on the slow speed, partially sprung, hard service WD type of jigger, a few miles of open road on a fully-insulated mile-a-minute mount was a treat to be remembered. The heavy machine began to bark under the merest paddle-off, revved till I trembled for its bearings, ate up hills as if they were not there, and slid over the war-hammered highways as if they were asphalt drives along a sea front. Some bicycle, the double-sprung ABC I had forgotten how extraordinarily good it is: and I ruthlessly turned down three more applicarions to purchase it at a tempting price."



"A little help is worth a lot of pity. 'Knights of the present day' giving a hand to the owner of an Enfield outfit."

HARLEY-DAVIDSON SENT A TEAM of 16 instructors round US army bases to show trainee despatch riders how to handle their new bikes. They were also setting up repair and servicing courses. Walter Davidson said: "I am sure that. when we get through with this work the Army will have reduced the repairing of motor cycles to a science, and the result will be that, instead of having a number of broken-up and 'joy-ridden' motor cycles to damage the reputation of this type of vehicle, they will have highly efficient mechanics taking care of these machines, so that they may give 100% efficiency. The motor cycle is gradually being recognised in the United States Army as a very essential instrument of warfare, and it is our duty to hasten its recognition as fast as possible. The

United States Army intend to carry a supply of spare parts equivalent to a typical factory stock, and they intend to carry a stock at each one of the cantonments in the USA. You can readily appreciate that this is an immense task, as the Army had made no provision for taking care of the machines they had bought. When I tell you that they are taking over 75 of the very best motor cycle repair men that we can find for service in the base repair shops in France, you will realise that they are going after it with the proper spirit. These repair shops are going to be immense institutions employing thousands of men with every kind of machinery imaginable. We here in the factory are going to supply the necessary parts to take care of the machines, and are also working on all the repair tools which they will need to salvage the motor cycle in every respect."



"A Consignment of military model Rover motor bicycles recently supplied for the use of the American Army in France. The machines are the latest model 5-6hp Rover, fitted with JAP engine, 28x3in Dunlop tyres, all-chain driven, with both chains enclosed, and a three-speed countershaft gear. One of the chief points of interest in the design is that the crank cases have a 6in clearance. The Government has given the New Rover Cycle Company permission to dispose of a few of these machines for private use."

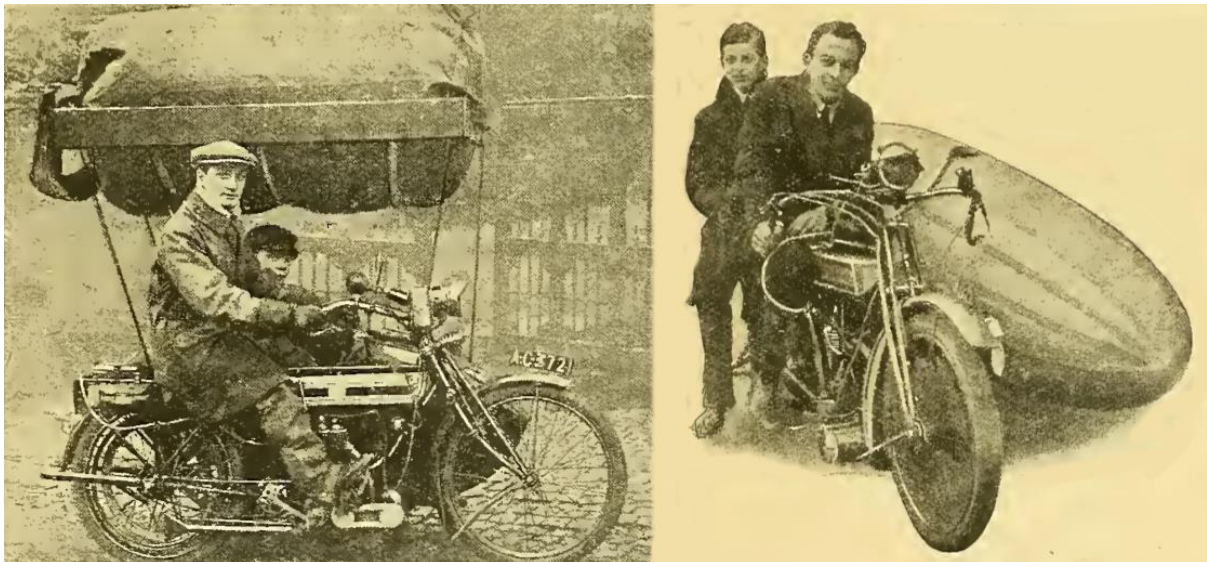
"A PATRIOTIC MOTOR CYCLE CLUB: Fifteen out of eighteen members of the Indian Motor Cycle Club, Chicago, are in training with the US Army. The remaining three are exempt from service. This is certainly a very fine percentage."

"IN AMERICA," IXION REMARKED, an artisan can purchase a five-seated car in return for eight weeks' wages. In a world where you can buy 20hp five-seated cars for £80 the continued existence of motor cycles averaging £70 apiece, as the standard of the world's markets, and not as the rank extravagances of gilded fools, is a yowling absurdity. So I had a kindly dream of some unborn genius who would do for motor cycles what Henry Ford has already done for motor cars, and sell usable solo machines at about £20 a time. It can be done, of course, and some day it will be done. If we don't

do it, the Yanks will. If they go west before they get as far as that, the Japs will do it: and if the notion does not occur to the Japs when the yellow peril is top dog, Russia will do it when she is industrialised. Then the horny-handed son of toil will be able to invest, and to taste the joys of the road. He will have than to than to trudge two miles to earth up his celery, or prop up a street corner, or sit on a hard, vertically-backed bench in the village pub until some sympathetic soul reads the visible thirst in his eyes, and passes over the pint pot.”

THE ALL-RUSSIAN MOTORCYCLE SOCIETY held one of the first motor cycle races in Russia, near Petrograd. The event was held over a kilometre with a flying start.

“ON AMERICAN MACHINES there are fittings and fittings, many of which would not be tolerated for one moment from a British factory. Their motor cycle brakes are certainly superior to their car brakes, and generally work well, though it is a marvel to me how the detail parts of many American machines ever hold together. Very often the detail finish is too appalling for words, the brake parts particularly being reminiscent of a village smithy, yet somehow they seem to hold together till permanently rusted on the frame...in the opinion of one rider, at any rate, the average Yank is nowhere in the same street as the average Britisher as an engineering job.”

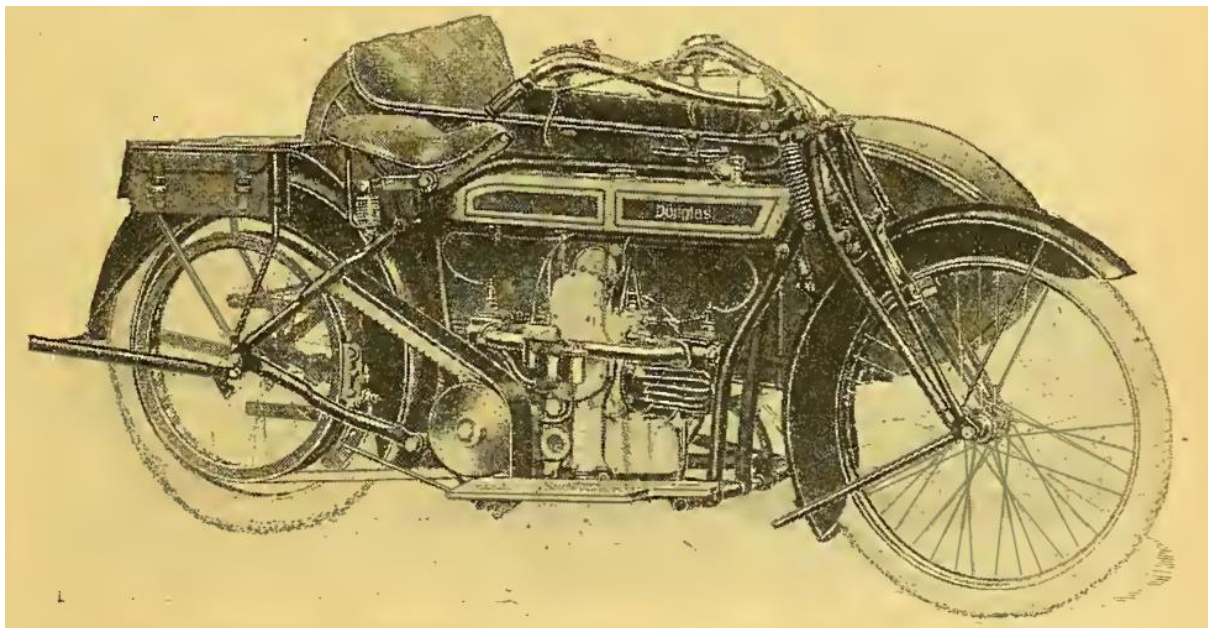


“Left: A 4hp Triumph outfit fitted with a Robin Hood gas holder, the property of VG Million, of Redditch. It will be noticed that the gas holder rests on webbing suspended from a wooden tray, which is supported by four steel supports from the sidecar chassis. It is possible to fill the bag from a 2in gas main in one minute and a half, obtaining sufficient gas to run with sidecar and passenger approximately sixteen miles. Right: “In place of the sidecar body of his Rudge-Multi, A Breslaw has fitted a coal gas container. He says the engine ‘gives plenty of power and a wonderful ‘ticking over’”

FOR SOME YEARS THE WATER of a well near Ramsey, Huntingdon had smelt of paraffin. “Two pumps, situated close together, were on Friday found to yield paraffin instead of

water, and at the time of writing some 1,500 gallons of oil had been obtained, while the flow showed no signs of ceasing...this is the first time that the oil has been obtained in such preponderance over the water that it could be used for lamp oil and for fuel in a stationary oil engine.”

“MOUNTED ON A CLEVELAND TWO-STROKE, CG Austin covered 542 miles in 24 hours [at Seattle, USA]. His actual riding time was 20hr 26min, and his average speed, therefore, 25.6mph. The course consisted of a round trip of 63.8 miles, which, on the fastest round, was covered in 2hr 10min. Heavy rain, fog, and powerful winds were encountered throughout the trial, the roads for the most part belong so slippery that a powerful sidecar outfit was unable to hold the pace. Austin’s dry battery lighting installation became ‘a wet battery’, and through most of the night he rode in pitch darkness, assisted occasionally by a hand flashlamp. He states that, given decent luck, he hopes to knock off 700 miles in 24 hours at an early date.”



“The 1918 Douglas 4hp combination. This has undergone practically no change...This model can be delivered immediately to farmers, munition workers, doctors, and those concerned in the supply of food, on obtaining a priority certificate from the Ministry of Munitions. As those motor cyclists who can obtain priority certificates will doubtless be in a position to obtain petrol also, we should imagine that many will be glad these models are available.”

THERE WERE 30,000 SOLDIERS at Camp Bowie, near Fort Worth, Texas, and Hendee was determined to sell them Indians. As part of this campaign “a 12in board is arranged on supports at a 30° slant with one end touching the ground and the other end elevated about 18in. The rider drives his machine on to the board at high speed, and as they leave the far end machine and rider sail through the air as high as 8ft, making a leap of

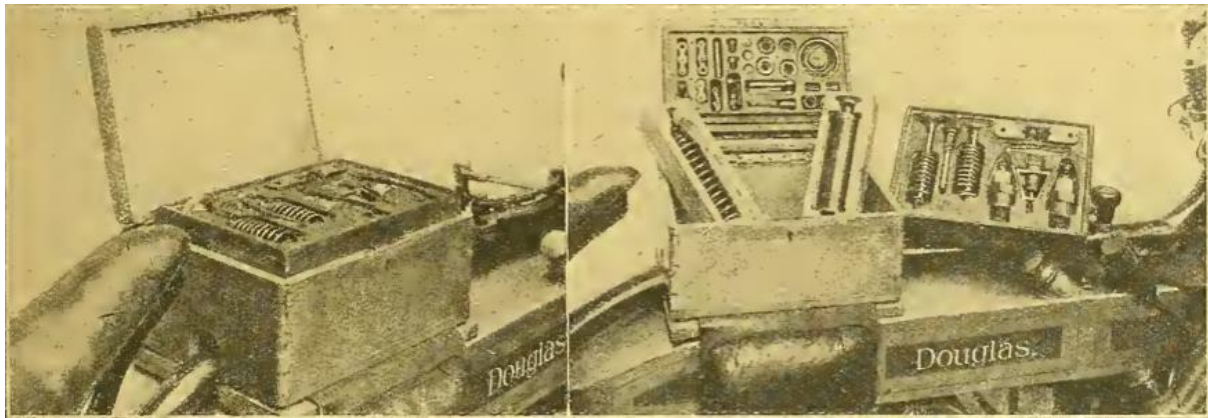
about 60ft before coming to earth.” Which does sound damned impressive, don’t you think?

“SIR,—MY SON CAME HOME on leave from France on November 24th; the day after he wrote to the Petrol Control Board for leave to ride my 6hp Enfield and sidecar with myself as passenger. He enlisted at the age of sixteen years and two months on August 25th, 1914, and has gone through a great deal of fighting since. All that he requested from the Control Board was leave to use some petrol I had saved for him. On the 20th he saw in *The Motor Cycle* that the Petrol Board would allow leave men to get petrol for any purpose. Acting on this we went for a ride to Windermere to see some friends, and came back last Wednesday without any interference from the police. My son returned to France on the 7th inst. On Saturday morning a letter came from the Control Board to say that they could not allow him to use the petrol for the use he wanted. I understand that the Control Board are prepared to grant licences to buy petrol to men on leave, but in this case they refuse leave to use the petrol we had; also, what is the use of granting leave to ride and not replying till the men have gone back? I may say that he informed them of the date he had to return. Thanks to the announcement in your paper, we got all the riding we wanted.

H BROGDEN.”

“SIR,—I WAS PARTICULARLY INTERESTED in your remarks regarding a small allowance of petrol to motor cyclists who are engaged on important war work. Those of us who are engaged every day (including Sunday), with day and night shifts, absolutely all out on the manufacture of munitions, feel that if it is at all possible to spare a small quantity of petrol or substitute for an occasional recreative run something should be done to help us. I would not suggest more forms to be filled up, or any additional clerical work for the Petrol Control Department—simply a statement on our present licence that not more than two gallons per month be used for recreative purposes, and trust to our honesty. For myself, during the past two and a half years my motor cycling has been confined to occasional runs on Saturday afternoons or Sunday nights out into the country for a breath of fresh air, with peace and quietness. Even as recreative runs the petrol was not entirely wasted, for it was while away from the noise and hurry that I got most of my ideas for methods and machines which are holding records in the quick production of munitions.

WORKS MANAGER, Glasgow.”



“The rider of the 2¾hp Douglas whose system of carrying parts we illustrate has tackled the problem in a sensible manner. It will be noted that a well-made dovetailed wooden box is carried on the top tube, and in it each individual part has its own receptacle carved for it. The top tray carries two spare valves, a spare tappet, a belt fastener, a belt punch, and two spare plugs, each neatly recessed into its own partition so that damage is quite impossible. The second tray holds spare chain links, each link having a separate compartment, and the same remarks apply to bolts, washers, and even split pins. It will also be noticed that special carriers have been carved to take the grease gun and spare fork spring.”

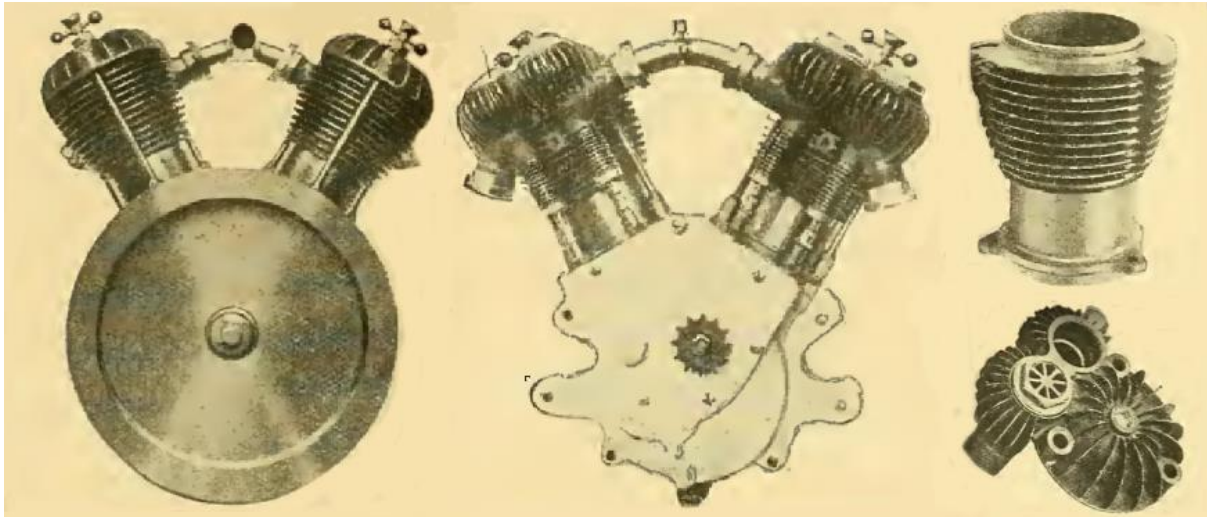
“THE RUSSIAN COLLAPSE has released many motor cycles for the civil market, but not all those built to the Russian specification. Royal Ruby machines of this type, however, are now being used by the Portuguese troops in France.”

“IN THE PRODUCTION OF FUEL OIL from home resources recently, the existing plants at the shale works in Scotland and the gas works and coke ovens throughout the country are being pressed to their full capacity and are being extended. Retorts are to be used at the gasworks rather than the collieries, because labour, machinery, and experience are available at the gas-works.”

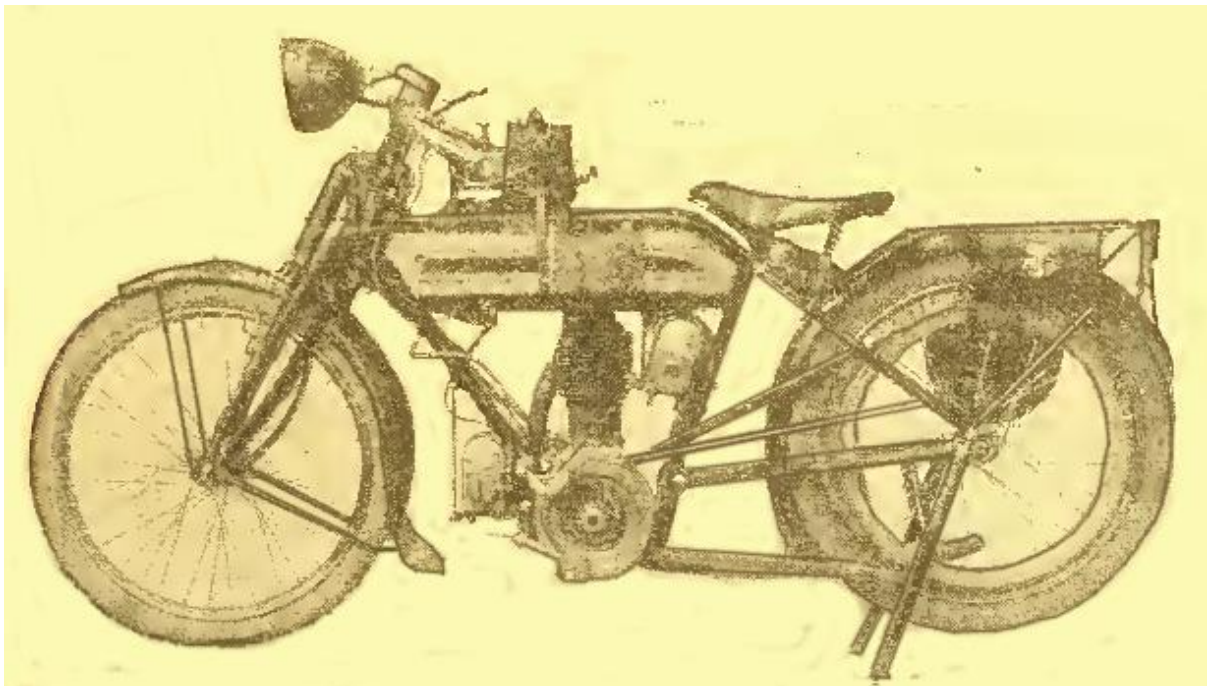
“MAJOR HUTH, SECOND IN COMMAND of the Military Detention Barracks, Farnborough, was fined £9 and £3 3s costs for disconnecting a pipe outside the gas-meter of his house and filling the gasbag of his motor car without allowing the gas to pass through the meter.”

““BOYS ENTERING A FACTORY were very largely neglected, both by their employers and by their parents. Neither gave sufficient consideration to their future careers,’ said Mr WL Baylay, OBE, of the BSA Co, who, in the course of an address given before the BSA Staff Technical Club, stated that the BSA Co had prepared a scheme which aimed at improving the life and training of the boys in the BSA employ, and the speaker regarded it as a matter of duty to the boys, rather than as a commercial and philanthropic undertaking. The lads were divided into two sections, skilled and unskilled, and those in the former section would receive a special training in one of the skilled trades, subject

to the parents agreeing to keep the boys in the firm's employment until twenty-one years of age."



Blackburne produced a 998cc V-twin engine, courtesy of JS Holroyd. "He is the company's designer, and is well known to our readers as a competition rider of conspicuous pluck, who has had a lengthy experience on the road...Practically every part of the twin is inter-changeable with the 3½hp single cylinder, the extreme reliability and sweet running of which rendered it so successful in many competitions prior to the war. This, of course, simplifies the spare part question to a great extent."

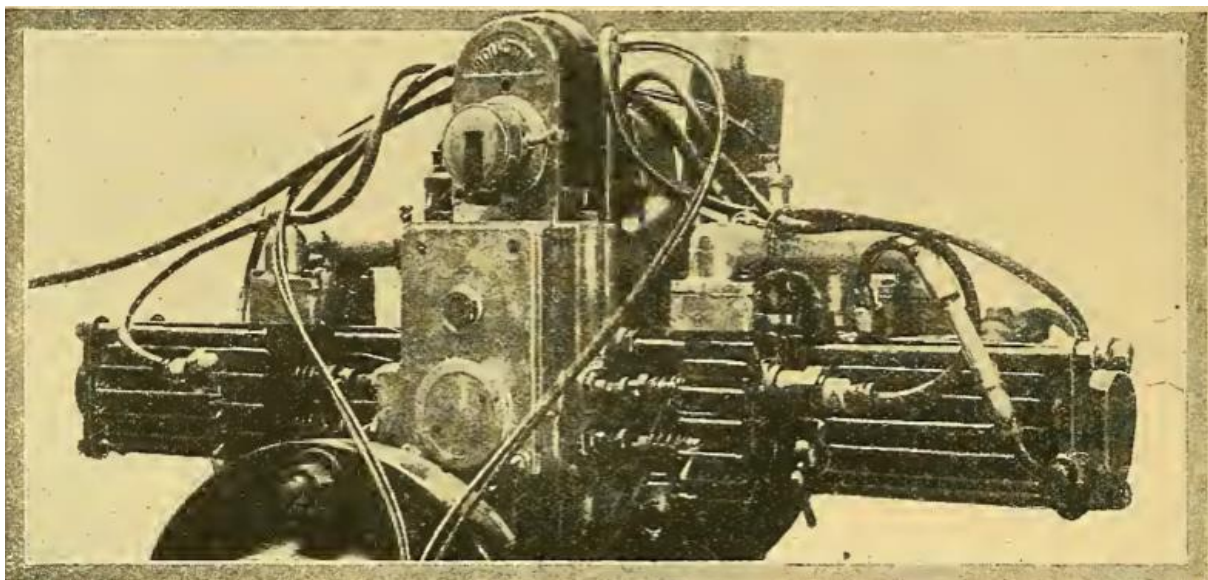


Meanwhile, LT CS Burney of the Royal Engineers and one of the original despatch riders who joined up in 1914, was busy customising his latest ride, a 1918 Triumph. He knew his way round a workshop—before the war Burney had been one of the young sportsmen who founded the Blackburne company. The Triumph sported Rudge forks, an outside flywheel and Lucas electric headlight powered by a 6V dynamo made from a

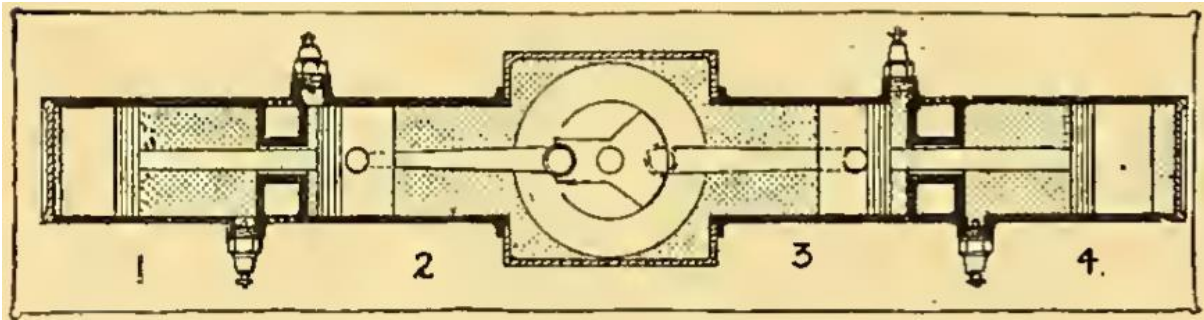
converted Bosch magneto driven by chain from a Douglas sprocket screwed to the inside of the Triumph driving sprocket. The drive was enclosed by a brass guard. A battery was mounted over the petrol tank.

“ONLY 4% OF DELIVERIES OF gas bags to date have been to private motorists, and 4,500 commercial vehicles have been already equipped for gas, the result being a saving in petrol consumption of approximately 3,000,000 gallons annually. Orders for equipment for some 2,500 more vehicles are already in hand.”

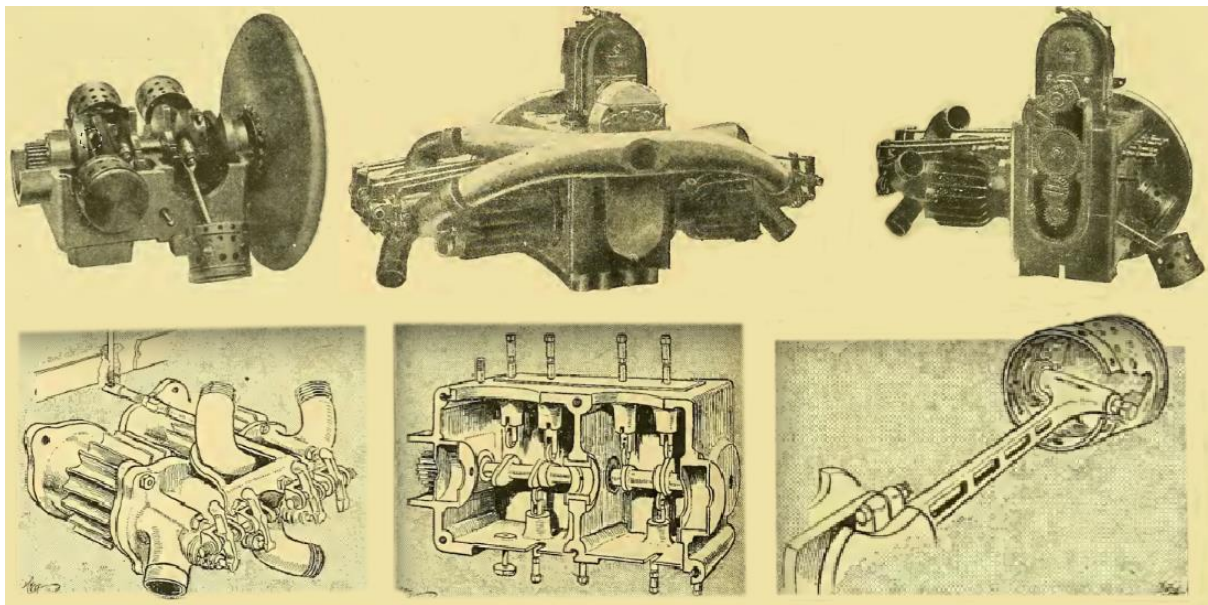
FLAT TWINS HAD PROVED THEMSELVES, as had in-line fours. Now the Frost Patent Engine Syndicate of Wolverhampton came up with a 790cc flat four. “In appearance it may be easily mistaken for a flat twin, a little longer than usual, it is true, but it is in effect a horizontally opposed four-cylinder with two cylinders placed end to end on each side of the crank case...The pistons are connected in pairs by a rigid connecting rod sliding in a gland; on each side of this gland are the firing spaces or combustion ‘heads’. The inner pistons only have gudgeon pins and connecting rods, and the crankshaft is of the usual two-throw type. With No 1 cylinder in compression, No 2 is at the end of its inlet stroke, about to compress; No 3 is at the commencement of the exhaust stroke, and No 4 is completing the exhaust stroke...Tangible evidence of its very cool running was afforded when, after a five minutes’ run at high speed, we were able to bear our hands firmly on the outer cylinder cover plates, and even around the firing spaces it was not unduly hot...At 2,500 revolutions it developed about 14hp, and at 3,000 it had jumped to no less than 23hp. Some engine without a doubt!”



“The clean line appearance, due to the employment of horizontal fins, is somewhat marred by the temporary fittings for test purposes. The overall length is not so considerable as might be supposed. The capacity of the engine is 790cc.”



“A diagram showing the action of the Frost engine. The firing spaces are indicated by the plug positions. A two-throw crank set at 180° is employed.”



As well as driving an Itala to good effect in the 1913 Italian Grand Prix, Giulio Foresti managed the Itala Works at Weybridge. He put that experience to use in the flat-four ohv Foresti engine that weighed 60lb, measured in at 700cc and, instead of the 6hp to be expected of this size of engine was bench tested at 21hp. Features included detachable heads, hollow valve heads, drilled out pistons and conrods and, it was claimed, “vibration is practically absent, no matter at what speed the engine runs.”

“THE POLICE IN PORTLAND, OREGON, USA, are using motor cycles, and the policemen motor cyclists have a pretty severe course of training to go through in the course of their careers. A correspondent who was present at one of these examinations reports that they had to take part in a slow race, a speed test, and a starting competition, in which they had to stand by their machines and see who could the most quickly get off the mark. Starting the engine first and getting under way by means of the clutch was not allowed. This was followed by a ‘trouble’ test, in which each man had to locate the source of trouble in a machine which had been put out of order and then get it into working condition again. In addition to the actual riding and mechanical test, examination papers had to be passed. The competitor gaining the highest marks is appointed sergeant of the motor cycle police squad. There are eighteen machines in all

doing police work in this city—twelve Harley-Davidsons, five Indians, and one Henderson.“

“ALMOST AMERICAN! A MAN recently brought up before the Stratford magistrates was alleged to have no fewer than ten stolen motor cycles in his possession, as well as many accessories. He was an engineer, aged 30.”

“THE MOTOR CYCLE IN THE PHILIPPINES. The motor cycle in yet another sphere previously ignorant of its existence. The motor has penetrated into the heart of Africa, and into the remotest parts of the globe, and soon the shyest native races will become accustomed to it. The photograph was taken in the Philippines by a lieutenant in the US Service, who says his Indian never failed to create a sensation. Whenever he dismounted and went a short distance away the savages swarmed about the machine like bees on honey, handling the lamp and all the bright fixtures with wonder and fascination. They were somewhat afraid of the engine, as its throbbings shook the frame. One day no fewer than nine of these half savage men were fingering and inspecting the motor cycle, and made no objection—in fact seemed rather proud—when the white man posed them for a picture. When the time came for him to go on, the natives ran for a long distance trying to keep up with the machine, but as, it gained in speed they stood still, straining their eyes to see it until it became very tiny in the distance, and finally disappeared as the road turned.”

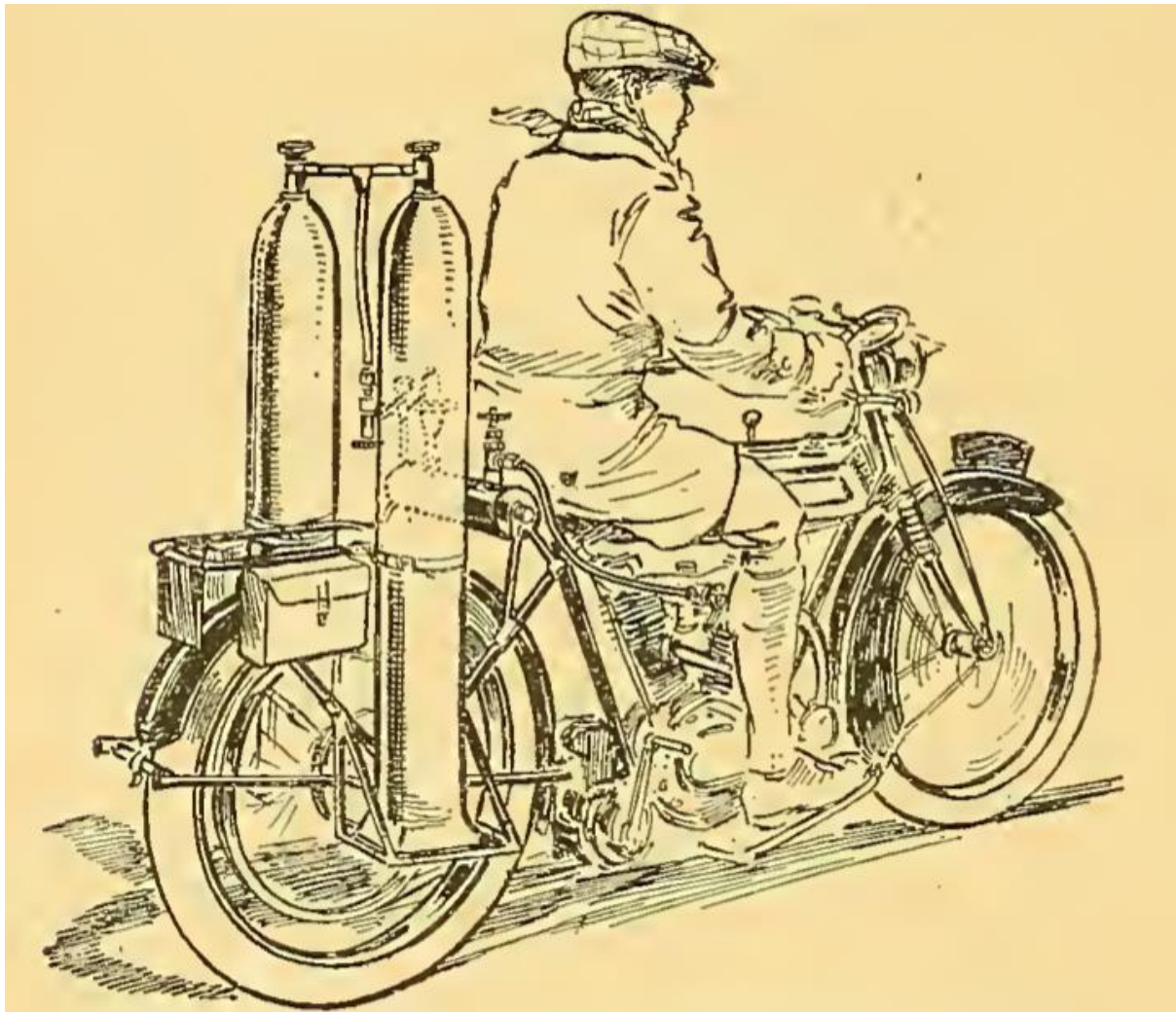


“Some of that rare species, the almost real savage, inspecting a motor cycle for the first time.”

“SOME CASE! A MOTOR CYCLIST was recently dragged up in court, to answer no fewer than six charges at once : (1.) Using petrol illegally. (2.) Driving without a proper silencer. (3.) Driving without a licence. (4.) Driving an unregistered motor cycle. (5.) Fraudulently

using an index mark. (6.) Allowing the numbers to be obscured. The defendant was, however, a member of the ACU, and was defended by that body, with the result that the whole case was dismissed on payment of the costs.”

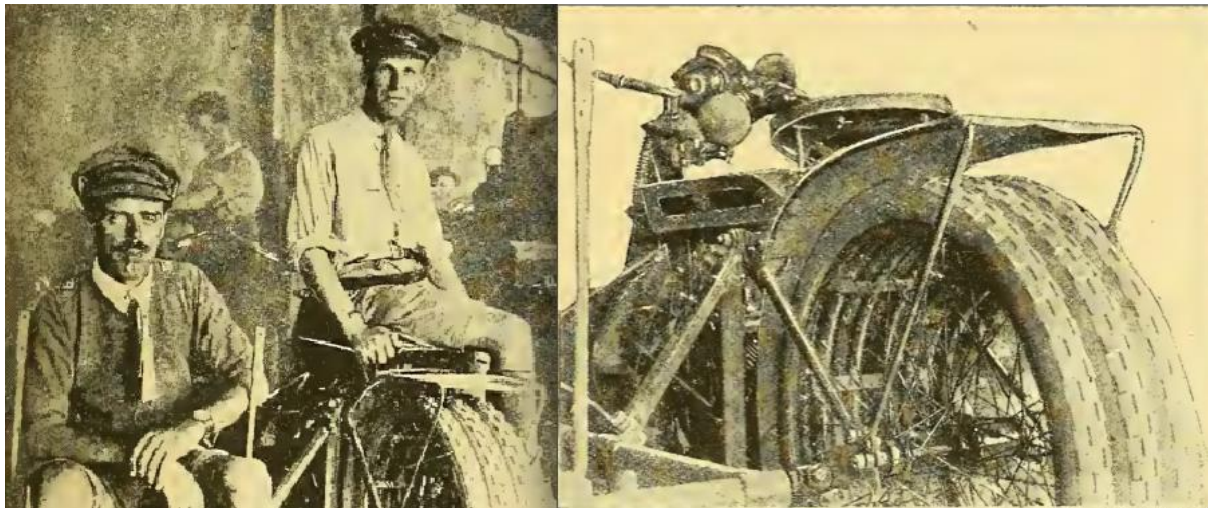
“THE FIRM OF MESSRS FLUGEL and Co, Newington Green, London, N, have for a long period studied the question of installing cylinders of compressed gas on motor cycles, and are ready and anxious to experiment further. They are fortunate enough in having in stock quite a number of cylinders weighing 47lb each. Now, two of these would weigh 94lb, which is a good deal lighter weight than is often transported on the rear carrier of a motor cycle, and there are few of the fair ladies one used to see riding on carriers before the war who were so slight as to weigh as little as a couple of these cylinders, which tends to show that the weight objection is not so serious as one would have been led to believe...These cylinders are made to stand a pressure of 3,500lb to the square inch, which is equivalent to 235 atmospheres. Now a pressure of 125 atmospheres means the cylinder would contain 60 cubic feet; 150 atmospheres, 75 cubic feet; and 180 atmospheres; 90 cubic feet. Consequently two cylinders would hold the equivalent of about threequarters of a gallon of petrol, while it is pointed out that if a sidecar were used four cylinders could be carried, which would have a total capacity of 360 cubic feet. When Mr Flugel has actually fitted up a motor bicycle we shall be very much interested to hear how it behaves. We think that for sidecar combinations, at any rate, the installation would be a success.”



“A suggested method of carrying gas under pressure on a motor cycle. Each cylinder weighs 47lb and can be made to hold ninety cubic feet of gas. The reducing valve is shown immediately behind the saddle.”

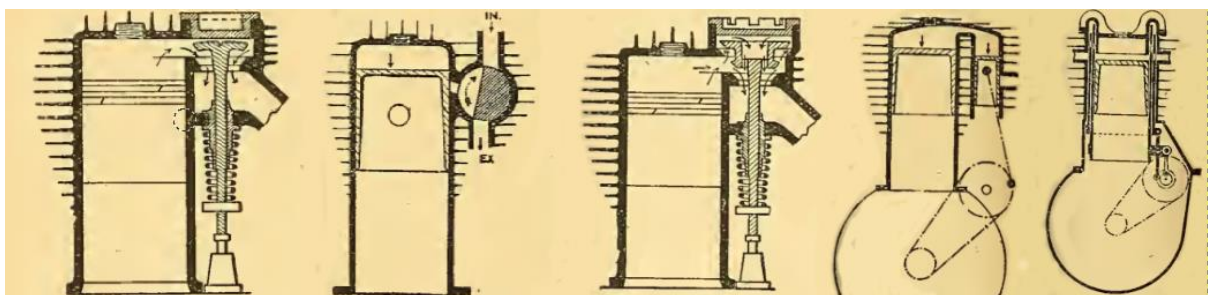
“THE DIFFICULTIES IN USING sidecar combinations on the sand at the Eastern Front will be readily appreciated, and a standard Douglas machine has been considerably altered so as to overcome these difficulties by two ingenious MT officers stationed in the land of sand. The main difficulty encountered in riding in loose sand is, of course, the tendency of the back wheel to bury itself, and so fail to get any driving grip. The two-officers considered that widening the wheel would lessen this tendency, and so carried their theory into practice. The alterations have proved eminently satisfactory, and the machine will pull through sand where it has been impossible to use a standard sidecar combination—in fact, the standard machine has been largely discarded in the desert for this reason. Other noteworthy alterations are: The fitment of a fan, handle starter. Triumph carburetter, and light sidecar body. The fan is driven off the flywheel, and is most essential, having regard to the normally high temperatures in this climate. The foot starter as fitted by the makers is often out of action, for if the back wheel is at all buried, it cannot be used. The hand starter overcomes this difficulty, and, further, makes the

engine easier to pull over. As regards the carburetter, the ingress of sand and dust is very troublesome, so a Triumph carburetter specially fitted up is used.”

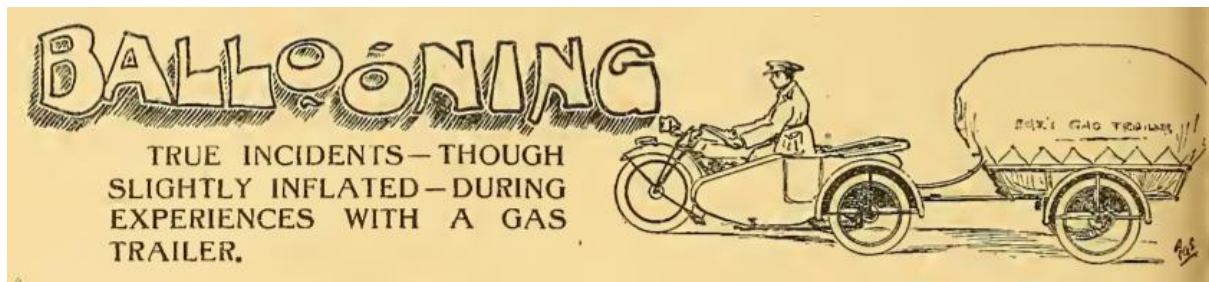


“Lt S Chapman, ASCMT (on left), the designer of the triple wheel, and Lt S Brown, ASCMT, formerly of the ROM Tyre and Rubber Co. Both are workshop officers of caterpillar companies. Right: The Rom-tyred triple wheel and attachments fitted to a Douglas motor cycle.”

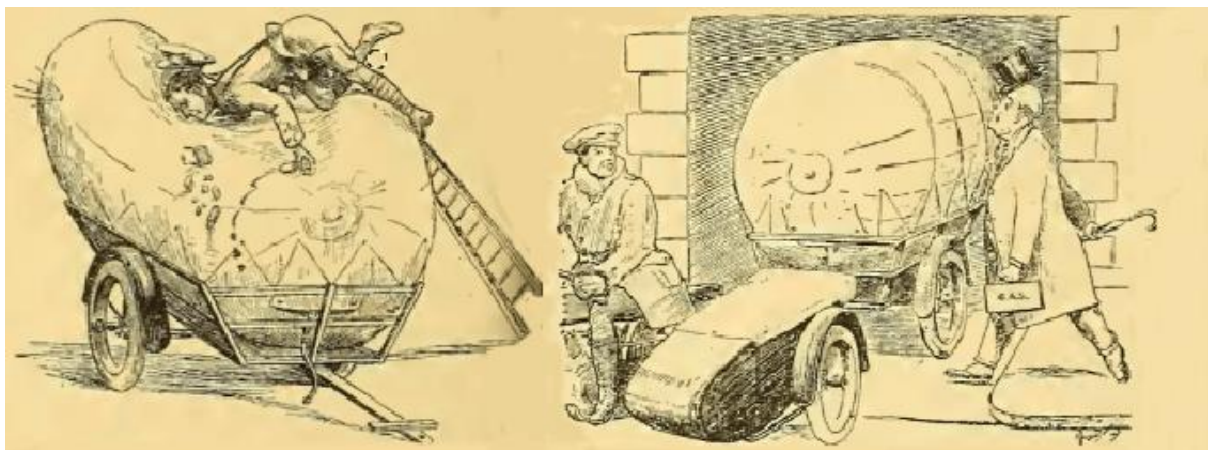
“DURING A RECENT VISIT to the works of the Norton Motors, Ltd, at Aston, Birmingham, we were informed by Mr Norton that they have decided to adhere to the single-cylinder policy, and to confine their efforts to three models in solo mounts, in place of the former six or more different varieties. (1.) The TT Sports model, 3½hp, belt drive, with variable pulley, for the speed merchant. (2.) The Utility mount with a 3½hp TT engine of special tune, all chain drive and three-speed countershaft gear, for the average rider. (3.) The Utility mount with a ‘big four’ engine and all chain drive, three-speed countershaft gear, for very heavy solo or sidecar work. The last two models will carry the well-tried Sturmey-Archer three-speed gear as hitherto. Thus this firm of long-stroke specialists will cater for all classes of riders without staging a mixed lot of models.”



“Valve systems on four-stroke engines—some considerations of the most usual types: [left to right] Ordinary poppet valve. Rotary valve; commencement of suction stroke; the single valve operates both inlet and exhaust and runs at half crankshaft speed. Double-seat or equilibrium valve; lift of valve exaggerated to show action. Piston valve; one valve for inlet and one for exhaust. Sleeve valve engine.”



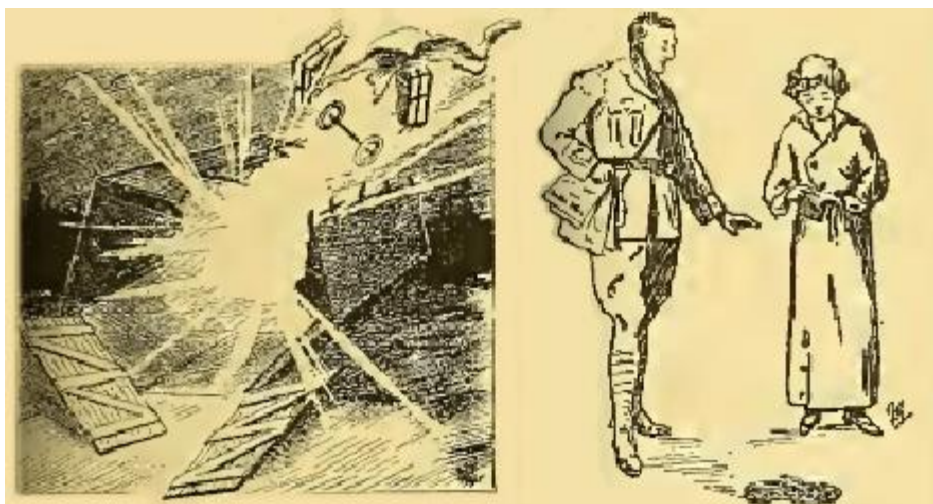
“NOTHING ON EARTH would have induced me to consent to the conspicuous task of towing a gas trailer had it not been that I could obtain my gas supply gratis from the office main. This being so, the trailer was duly installed, and amidst the jubilant cheers of street urchins I sallied forth with the balloon in tow. All went well till I met the milkman on his evening round. The milkman’s horse is one of the low-compression side by side valve variety, of Category C3, but on sighting that balloon it instantly converted itself into one of the copper-bottomed Class A fighting brand. Its first act was instantaneously and promptly to sit down in the centre of the road, ears erected, eyes bulging, bringing up the rear with a metallic clatter of empty milk cans. No one was more surprised than the milkman. Had his steed dropped dead and rolled back downwards with legs aspiring stiffly skywards, he would have taken it as more or less within the normal order of things, and proceeded to become used to it; now his surprise was one of paralytic helplessness. Next the horse stood straight on end, still staring with its ears, and proceeded to walk round on its hind legs in a narrow circle, till it faced in the opposite direction, whereupon the whole shoot literally slithered into a farmyard. When next day I asked the milkman if any damage was done, he replied, ‘Not much, sir. Only trapped his tail a bit when he sat down so sudden!’ The same old horse passes me to-day with only a snort of contempt. One recent dark night I emerged with the outfit from a side passage which leads into a main thoroughfare, holding up a pedestrian who was in the act of crossing the pavement at the passage head. The pedestrian was of the prosperous commercial traveller type, and, knowing that the trailer in the gloom behind was invisible, I shouted in passing, ‘Trailer behind,’ to which he replied, ‘Same to you,’ evidently thinking I was wishing him a merry Christmas. Then having duly seen the sidecar pass, he proceeded to walk slick into the trailer, his attitude being that of a man who treads on the teeth of a hay rake, and is reminded of his error by the speedy erection of the shaft. When last I saw him he was striking matches and groping about the pavement. On the following day we had a slight argument with a railway dray that we met in a narrow passage. The drayman shouted that all was clear, but, unfortunately, he



“The beastly ladder slipped and I fell on top of the bally balloon...Then proceeded to walk slick into the trailer.”

took only the trailer wheels into account, omitting to notice that the superstructure overhung somewhat. The result was that a corner of the trailer rail collided with a box poised perilously on the edge of the dray and from the crash that followed we judged that the box was full of jam jars. Examining the trailer on reaching home, I was surprised to find a pair of gold spectacles hooked up in the gasbag, while just below was a narrow jagged hole! Will the owner of the spectacles please apply—though I would inform him that he has, in spite of a warning, and probably with malice aforethought, bitten a hole clean through my gasbag! Oh these anti-motorists! There was once a man who made a bassinette [I think our contributor means a ‘cello, but has become confused with bassoon.—ED.], and having completed his task discovered that he had left the glue pot inside. The following incident reminds me of that man. We had left the trailer in a warehouse to fill slowly from the main, surrounded by large piles of crates and such like dunnage. Returning forty minutes later we were surprised to find the place in darkness, nor did manipulation of the switch cast any light upon the mystery. After careful search we eventually discovered the electric light bulb securely jammed between the fully inflated balloon and the side of a crate. Having set this matter right, we next attempted to extract the trailer, but only to find that, in its fully inflated condition, it could not be withdrawn from the building. It looked, at first, as though we should have to pull down an arch that propped up the three storeys above, but the warehouseman, being a gentleman of resource, suggested that we connect the balloon to the pipe again, then all sit on it to squash some of the gas back into the main. While we were discussing diis sociable little scheme, however, the bag proceeded to flatten itself of its own free will, by breathing noxious odours through its pores, in that little way it has, and at the end of ten minutes, by means of judicious coaxing, prodding, and pushing with a plank, used as a shoe horn, we got it out of the place. But the gasbag met a sad end. One recent frosty morning my brother’s son and heir espied a sparrow perched on top of it, shot at it with his air gun, and drilled two neat little holes clean through the top of the balloon fully a yard from the sparrow. I borrowed a ladder from the vicar, and got busy with a tyre

repair outfit, but the beastly patches would not stick. It was like hammering a tack into a blancmange, and when I became irritable and tried to lean on the patches, the beastly ladder slipped, and I fell on top of the bally balloon. This burst it in another place, with the result that it was leaking worse than ever when that evening cook went into the outhouse with a candle to look for a carrot. We heard a sort of dull ‘whoff’, the house shook slightly, and the housemaid, who was finishing up the bottled peas in the kitchen, cut her mouth. Then she ran into the sitting room where Arabella and I were reading. ‘O! Mum,’ she gasped, ‘Cook’s gone!’ The kitten shot up the curtain and growled. ‘Where?’ I queried, a shade incredulously. The girl pointed dramatically to the skies. As she did so something fell with a soft thud on the gravel path without. I peered through the window—it was one of cook’s felt slippers! We looked at each other doubtfully, then Arabella and I fell on each other’s necks and shed copious tears. ‘The end of the gasbag!’ we gasped hysterically. HMB.



“We heard a sort of

dull ‘whoff’...Something fell on the gravel.”

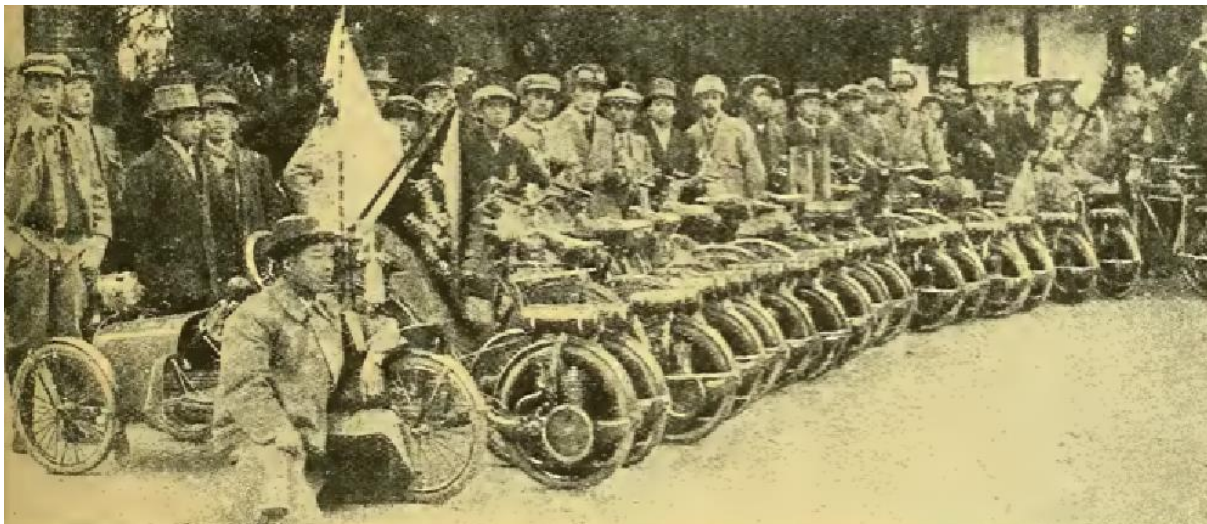
“IT IS A MERCIFUL PROVIDENCE, as the parsons say, that ordinary motoring is suspended,” Ixion wrote. “After a day in a factory or an office, one can make shift with a shepherd’s pie, or a wee fillet of fish, or an egg with cheese grated over it, the whole washed down by Government ale. But just try war rations after a hundred mile spin over the downs on a fast jigger, when there is a bit of a nip in the air. Nothing but !a couple of pounds of steak and a large tankard of Bass can meet the occasion. Unlimited motoring on limited rations would have spelt red revolution within a fortnight. Sometimes I am compelled to motor on national duties. On such trips I always carry a large turbot or a pen of Rhode Island Reds in full lay on the carrier. Even these precautions fail to satisfy my road appetite, so that I gaze at plump flappers with a cannibalistic gleam in my hungry eye.”

“WE UNDERSTAND THAT A NUMBER of British motor cycle firms are angling in four-cylinder waters. Several have models on paper only, but one or two have experimental machines on the road. Who will be the first boldly to acknowledge their conversion to

this fascinating type? More than one of them have stated that, for sidecar work, the four-cylinder is it.”

THE NORTH CHINA MC WAS set up in Tientsin with a branch in Pekin. “The distance from Pekin to Tientsin is about eighty miles over dead flat country, and proposals are abroad with regard to making a main road between the two places, in the event of which the club will erect a half-way clubhouse for the use of members.”

“THE PATENT OFFICE has long been a convenient butt for any abuse that might have been in need of a home, but we wonder how many readers are aware that this long-suffering institution dates from so distant a date as 1627?”



“Japanese motor wheel enthusiasts at Nagoya. Japan offers a big field for the motor cycle manufacturer, as the Americans have already realised...There is no doubt that such attachments few of which will propel a machine at a greater speed than twenty miles an hour, and will therefore not appeal to the enthusiastic motor cyclist—will do useful missionary work in educating cyclists up to the joys of the use of a properly designed motor bicycle.”

“A CORRESPONDENCE: A QUEER QUERY anent the Reality or Fiction of the Personality of that Mysterious Walking (?) Encyclopaedia ‘Ixion’. From AR Eader, Castroll Lodge, Revden, Hants. Dear Ixion, ‘—In June, 1914, I made a bet with a pal that ‘Ixion’ does exist, and that he is not a masculine Mrs ‘Arris. My friend alleged that whenever any member of *The Motor Cycle* staff had a few minutes to spare, or a brain wave (don’t blush), he dashed off something which appeared under the general heading of ‘Comments’. I, on the other hand, affirmed the existence of a genuine ‘Ixion’, and further deduced from his articles that he was now of middle age, came from Tipperary (or at any rate was of Irish extraction), and that after a somewhat lurid youth was now respectably staid, and married. He has a family, including a son, who, when father is safely at the office, bags the latter’s pet 5hp single gear solo twin. ‘Ixion’ objects to 3½hp sidecar outfits, as Mrs Ix is in the heavyweight class. Well, the loser was to clean the winner’s

machine, and we were both allowing our mounts to get into a suitable condition when Potsdam Bill thought it was time to begin enlarging his dominions. My friend, alas, will ride no more—unless Elysium has its roads—or I should have written before, and claimed the bet. Still, it has been intriguing me for some time, and an assurance that ‘Ixion’ is a real person would greatly oblige. I think, too, you are still a little fond of strong waters, after which you sometimes have deplorable lapses.

Yours truly **AR EADER**’

From ‘Ixion’: Dear Sir,—I have tried to duplicate your effort in literary analysis, but I fear with no very great success, partly ascribable to the fact that no heavy stakes spur my effort. At first I decided from evidences of intense curiosity in your letter that you were a female DR. But anon, from your free treatment of the text under discussion I judged you to be a Broad Church parson, masquerading under a pseudonym. Finally, I decided to respect your evident desire for privacy, and to avoid prying into your hideous past and doubtless equally repulsive present. As a matter of fact, you were a good deal nearer the mark than your friend—peace to his ashes: but here and there you allow yourself to make a false deduction. For example, my detestation of sidecars applies equally to the 7-9hp variety. In return for these sacred confidences I implore you to tell me where one may now procure those strong waters you speak of: I have been unable so much as to smell them these many moons past.

Yours faithfully, ‘Ixion’.”

“MANY READERS WILL REMEMBER that some time ago there was a craze among a certain type of motor cyclist for using various materials to doctor the contents of the fuel tank, the main result claimed being increased mpg. Now the disease has broken out in New Zealand, and wonderful results are alleged to follow from the adulteration of petrol with a small quantity of a patent liquid.” [*This is an early use of the abbreviation ‘mpg’ for ‘miles per gallon’; ‘mph’ coming into common use for ‘miles per hour’ as was ‘rpm’ for ‘revs per minute’*].

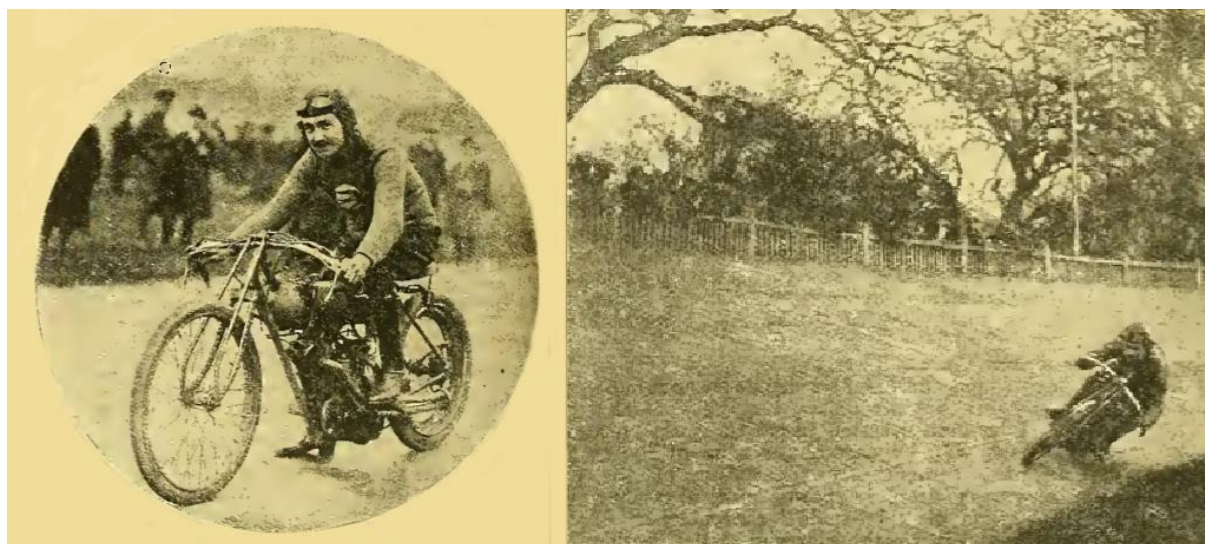


The women’s legion was supplying despatch riders to the RFC. “They are engaged in short journeys only, chiefly in the Metropolitan area, and rarely go very long

distances...in wet weather they are provided with oilskins and waterproof leggings...we cannot but express the greatest admiration for the brave girls who carry on in their duties in all weathers and throughout the whole year with so small a protection as the average motor cycle affords.”

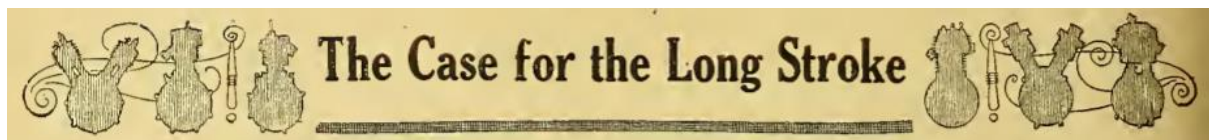
“A GRATEFUL SOLDIER: A reader of *The Motor Cycle* who is attached to the Headquarters Workshops of a Siege Park in France has written a letter to the Commandant of the Motor Transport Volunteers in the following terms: ‘In a recent copy of *The Motor Cycle* I see you are asking for volunteers to drive soldiers on leave between the various London termini. On the various occasions that I have been on leave the MTV transport has been of great assistance. I expect to be home again in a short time, and will gladly give up two nights to help you...I have had considerable experience out here, also at home, on road and track, so do not mind what vehicle you put me on. Also I know London very well. Your service is of great help to Tommy in his Journeys across Town. More power to your wheels!’ The writer is Donald S Parsons, well known to many of our readers as a member of the Essex Motor Club and of the Motor Cycling Club.

“RECORD ATTEMPTS AT EASTER: Harry Martin, who is now on the aircraft staff of Messrs H Collier and Sons, will be riding on Herne Hill Track on Good Friday, at the request of the SCCU, at the meeting held for military charities (nominated by the War Office). He will make attempts on the five miles and one mile track records. Harry Martin, who is fifty-two years of age, is well known to our readers as one of our oldest racing motor cyclists...In view of the rareness of motor cycle competitions—none has been held for nearly three years—the events should be interesting.” In the event Martin, riding a 3½hp ohv Matchless cut the flying start mile record from 1min 19.8sec to 1 min 12.2sec, equating to nearly 50mph. He also cut his own five-mile record from 6min 56.2sec to 6min 31sec.



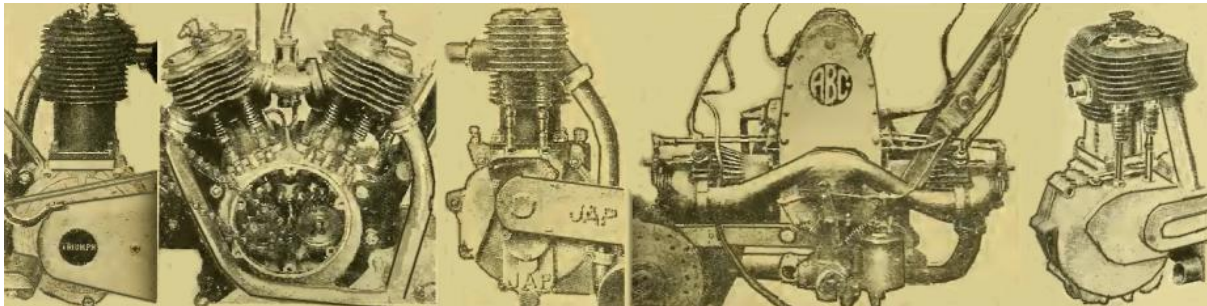
Left: “Harry Martin on his 3½hp Matchless on which the record was broken.” Right: Martin doing his stuff on the Herne Hill track.

“THE TRUTH ABOUT AMERICAN machines is rather difficult to ascertain,” Ixion wrote. “I have never been a big twin enthusiast, partly because I eschew sidecars, and partly because my mechanical conscience informs me that I can get the same speeds out of a crack 3½hp if I keep it properly tuned. But a few years ago various people whom I respected thoroughly rubbed the merits of the American into me, and at last I fell from grace and purchased a sample. I countered immediate and interminable trouble. The twiddly bits strewed the road. The wheel bearings dissolved. The carburetter needle wore like a soft pencil, and after three months, or rather less, the London concessionnaire returned my cheque, and indignantly vowed that he would secure a gold medal in the Six Days with my discarded ‘bus, though when it came to the point he did not even enter it. I swore off Americans for some time, until a leading rider and I fell to discussing the extreme discomfort of the average British machine of that date, with its rigid frame, harsh drive, and thumpy, one-lung engine. We agreed to try a pair of imported V twins. He got his first, and a month later paid a special call to release me from my share of the bargain; he stated that his ‘bus ran like a dream, but that he was inventing a magnetic broom, which should trail behind his rear wheel and salve the small pieces which fell off.”



“A COMPARISON OF LONG AND SHORT STROKE SINGLES shows little structural difference externally. Internally the principal difference is, of course, the long stroke engine’s narrow cylinder bore and light reciprocating parts...let us consider the various attributes that we consider desirable in our machines. Easy starting: The longer ‘induction effort’ of the long stroke engine results in a very easy start. ‘Gumming up’ in cold weather—that bugbear of the average single—I have yet to experience in a long stroke engine. Cool running: In practice the long stroke engine scores decisively, and will continue to do so until the theoretical day dawns when our cylinders and pistons are made of non-heat-conducting material. The longer piston travel and relatively slower revolution rate all tend to a better heat dissipation. Economy of Fuel and Oil: On benzole the economical running of the long stroke engine is simply wonderful, as this engine is able to utilise to the full the slower rate of flame propagation of this fuel. The driving effort of a long stroke engine on good benzole must be nearly akin to the elastic push of a steam engine...In petrol economy we have the phenomenal record of 320 miles per gallon by the 64x77mm twin James in a Sutton Coldfield Club trial of a few years ago...In the 3½-4hp class, whilst the ‘square’ engine is content with a consumption of from 70-100 miles per gallon solo riding, the 3½hp long stroke engine consistently gives from 90-150 miles per gallon under similar riding conditions. Speed and power: Long stroke engines almost dominate the record list. Twenty-one world’s class records stand to the credit of the pioneer long stroke Norton. Amongst the smaller

engines we have had the famous long stroke Levis two-stroke, of under 200cc, that attained the wonderful speed of fifty miles per hour—a record speed for any two-stroke engine up to 350cc capacity. In this class also the little OK Junior, with its long stroke engine, has made its mark...The 500cc class sees virtually four machines which can be classed as the world's fastest 3½hps, Norton, ABC, Motosacoche, and Triumph...Three of them are long stroke engines...the ABC, the solitary short stroke representative, is a redoubtable opponent, and will require watching.”



Praise for long-stroke engines (from the left): Triumph 85x97mm, James 64x77mm, 4hp JAP 85.5x85mm, 3½hp ABC 70x64mm and Norton Big 4 82x120mm.

APROPOS RIDING POSITION AND TALL RIDERS, we had, recently, a chat with the works manager of a well-known firm on this matter. He acknowledged that their own machines were sinners in respect of discomfort to the tall rider, although we know of many worse. He assured us that their designers had expended considerable time on this point, with, only an unsatisfactory compromise as a result. He claimed that it should be possible to construct a system of adjustable footboards, handle-bars and saddle, so as to suit any rider to perfection, and he hoped before long that his firm would be able to make a distinct advance in the right direction. Without doubt this subject requires very serious attention by all designers, to prevent that weariness at the end of a long ride so well known to long-legged riders.”

“FUEL FROM SOUTH AFRICA: We are informed that an old whisky distillery at Hetherly (Transvaal) is being converted into a motor spirit producing plant.”

“A NEW IGNITION: A speaker at a recent meeting of a Graduates’ Section of the Institution of Automobile Engineers explained a new system of ignition which may be used in post-war racing machines. We are not permitted to give further particulars, excepting that a spark ‘right across the cylinder’ is possible.”

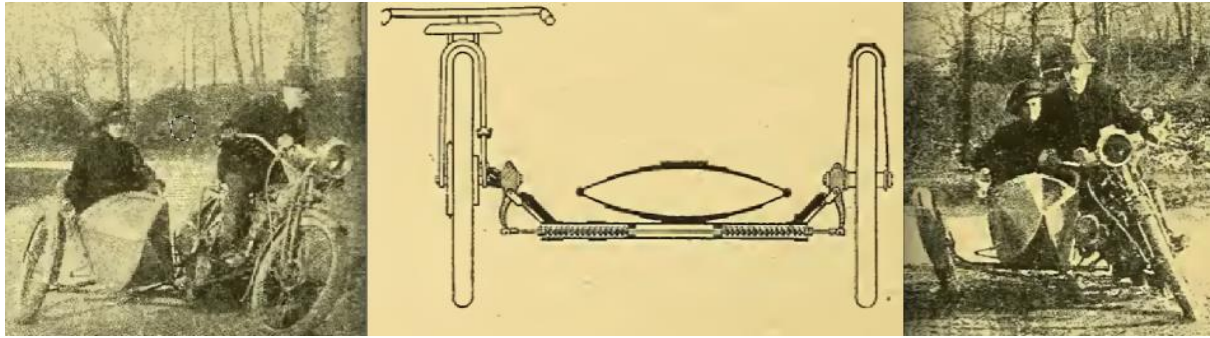
“LOCAL ‘FASHIONS’: WE HAVE HEARD of a case where a certain motor cycle remained on the hands of a colonial agent for over twelve months, merely on account of the shape of the handle-bars, which illustrates the necessity for our manufacturers thoroughly to understand local likes and dislikes, as well as the conditions under which their machines will be used.”

“DEATH OF A WELL-KNOWN American Motor Cyclist: We regret to learn that Alan T Bedell, who was learning flying in America, died recently after suffering from measles followed by pneumonia. He broke the American motor cycle record last March, on which occasion he covered 1,153.5 miles on a Harley-Davidson in twenty-four hours at Ascott Track, Los Angeles, and a few months later broke the coast-to-coast record on a Henderson, covering the 3,296 miles in 7 days 16hr 16min. Bedell was held in high esteem by all who knew him as being a thorough sportsman. His death will be a great loss to the American motor cycle world.”



Left: “Cpl-Art H. Russell, who is despatch riding in Macedonia. The ample kit is worthy of note, and the fact that the carriers stand such loads speaks well for their construction.” Right: “Despatch riders and the advance in the Holy Land. It is an obvious necessity that they should thoroughly understand the difficult art of securing unwieldy loads to a motor cycle. The bad roads over which they travel thoroughly test their capabilities in this direction.”

“A CORRESPONDENT WROTE TO *THE MOTOR CYCLE* recently asking if it were, not possible for him to obtain a driving certificate which would show that he was capable of driving a motor bicycle and had some knowledge of the theory of its working. The reason for this was that he had applied at a recruiting office to be enrolled as a despatch rider, and the officer in charge told him that he would do his best to put his case forward, provided he could bring some proof that he was a capable driver and had a good knowledge of motor bicycles. We were reluctantly compelled to tell him that no such certificate existed. The car driver has no difficulties in this respect. There is the RAC driving certificate, the examinations for which are extremely popular at the present time. The Royal Automobile Club is doing very useful work in holding these examinations daily. All sorts and conditions of both men and women go in for them. The examinations are, divided into classes, for the first, second, third, and owner-driver certificates, the difficulty of the test being in proportion to the type of certificate for which the candidate enters. The examinations consist of a short but stiff driving examination, and for the first and second-class certificates a technical paper has to be passed. it should not be beyond the powers of the Auto Cycle Union to institute something rather similar for motor cyclists.”



'Flexible' sidecars had fallen out of favour in Britain but in the USA a flexible chair was built that not only leaned: the sidecar wheel turned with the front wheel. This was said to (almost) eliminate skids. An adjustable spring in the rear frame member was said to keep the outfit in balance and to compensate for the drag on the bike. The sidecar fitted on either side.

United States Patent Office.

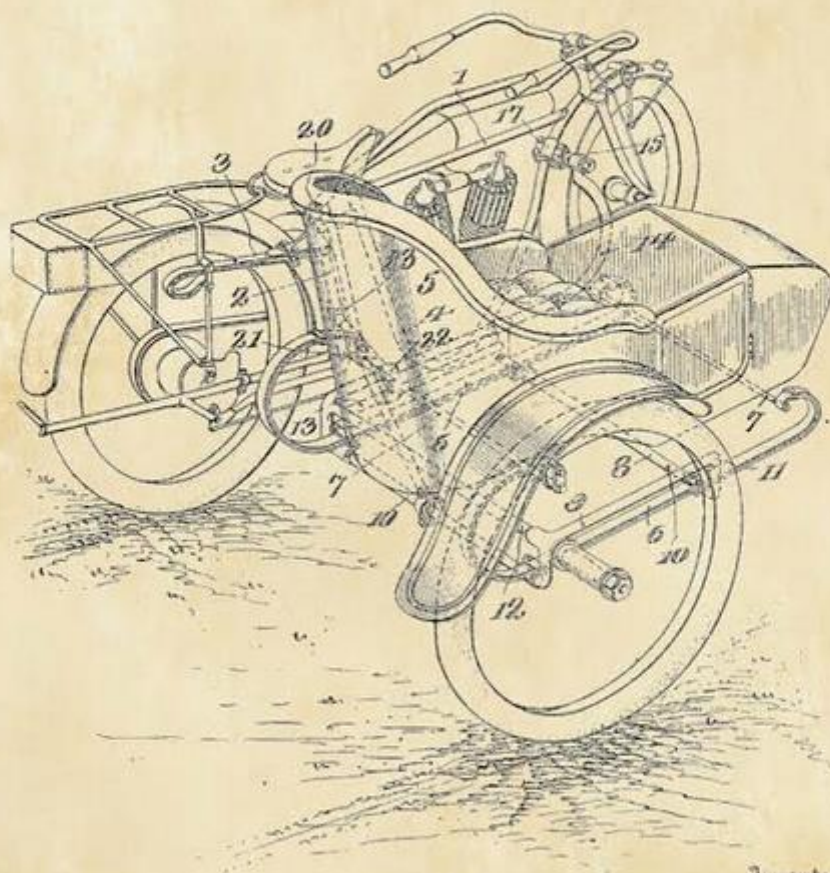
G. J. GUSTAFSON.

Design No. 1,267,212

dated May 21, 1918

DESIGN FOR A SIDE CAR ATTACHMENT FOR MOTOR CYCLES.

Fig. 1.



Witnesses

H. H. Murray
Grace P. Brewster

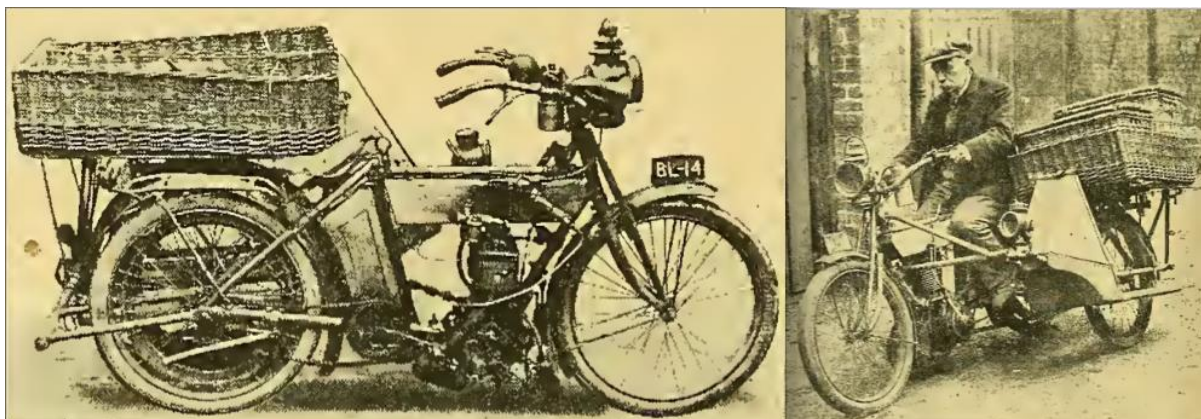
Inventor

Carl J. Gustafson

By

Sturtevant Mason

Attorney

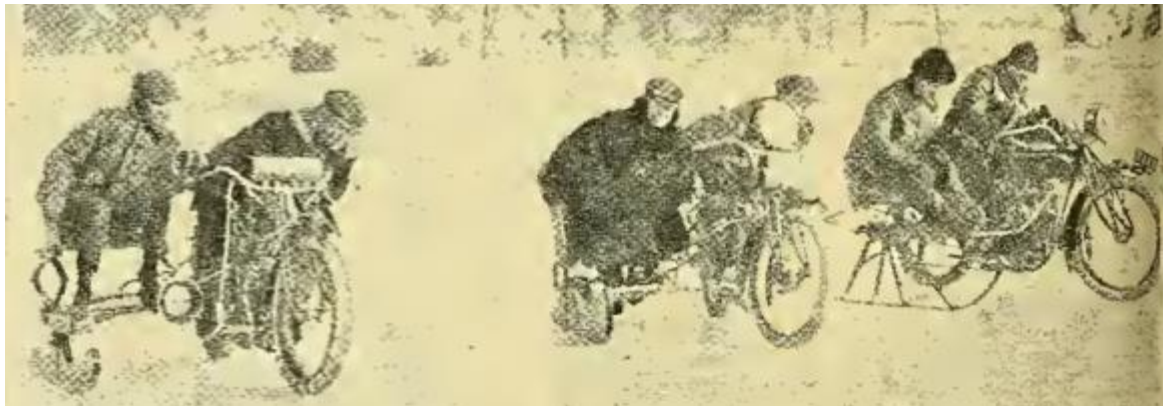


No-one was building flexible sidecars in Britain, but there were some survivors. Londoner EW Gascoyne, for example, used his trusty 1904 3hp Rex to delivery laundry in a home-made flexible sidecar. He'd also fitted a spray carb, more efficient exhaust, magneto ignition and two-speed gear. "Originally the side-carrier was fitted with pedalling gear, a saddle and extra handle-bars, so that before the improvements were made to the motor bicycle—and it had not so much power as it has now—the passenger could assist the driver by pedalling to start and up hills...the brave old machine is now able to take its rider and a load of laundry baskets anywhere."

FOLLOWING A 34-MONTH, 10,000-miles test on a sidecar outfit a Lucas dynamo lighting kit was said to have performed faultlessly. The dynamo had been stripped, inspected and lubricated periodically with no signs of wear; the switchgear, bulbs and wiring had needed no attention. The 17Ah battery was also in perfect condition, which was attributed to being maintained in a fully charged condition. "Further, the rates of charge and discharge are never permitted to exceed values at which the plates would tend to buckle and disintegrate. These latter effects are a frequent source of poor performance in batteries fitted to self-starting sets on cars where discharges at a very heavy rate often occur." The dynamo drive chain had suffered from broken rollers and was worn out within 2,000 miles. "In later models of the motor cycle concerned a Whittle belt drive has been adopted, and, judging from the results obtained on car installations, this type of drive should be expected to prove very satisfactory...The dynamo lighting system for motor cycles undoubtedly has come to stay, and, when well designed and constructed, it gives service in lighting, convenience and life second to no other system."

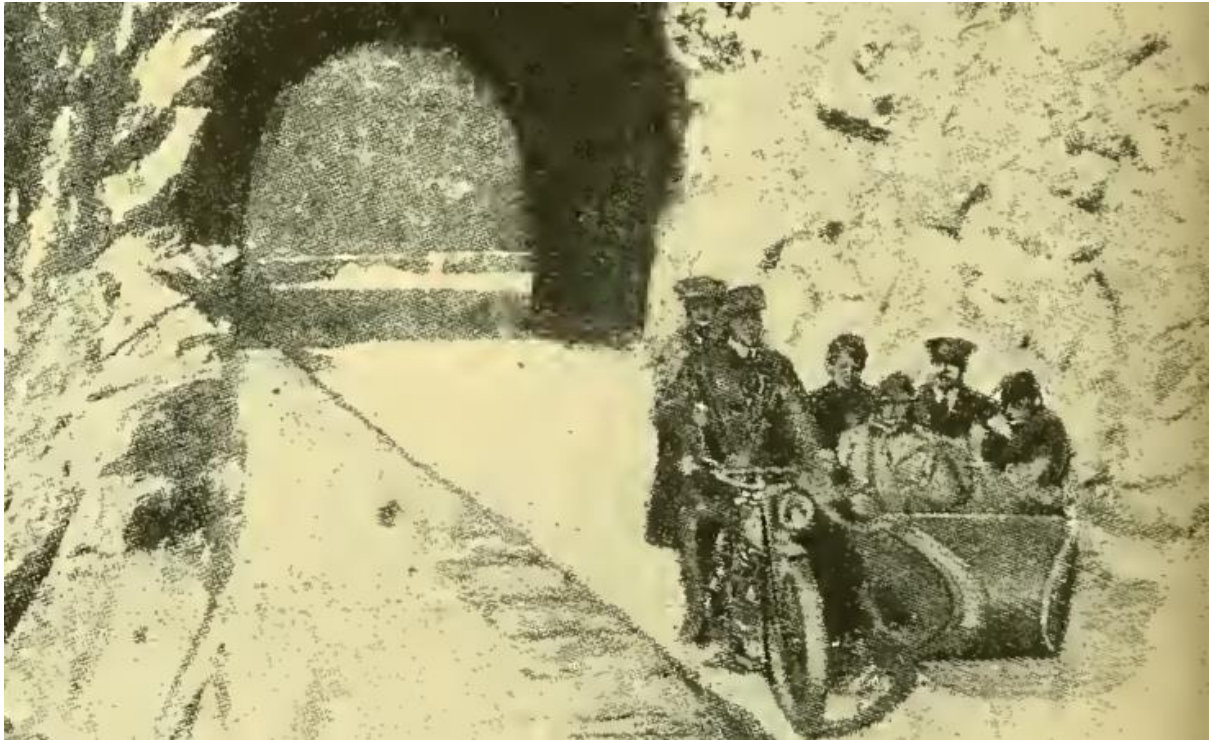
"GASOLINE AND GAS IN AMERICA. We have several times in these pages chaffed our American cousins for calling petrol 'gasoline' for short. Gasoline is obviously much too long a word in the land of abbreviations, so they usually speak of it as 'gas', with what confusion can be judged from the paragraph given below, which was taken from an American journal: 'Whether gasoline is gas or 'gas' is to be decided in the courts of Pennsylvania, and may from there go to the United States Supreme Court. According to the United Natural Gas Co, gasoline is gas, and when it is removed from natural gas, to make it 'gas', the removal deprives the buyer of the natural gas of gas that he has

ordered and will in due time pay for. The Alum Rock Gas Co, of Franklin, Pa, which has been selling 'gas'-less gas to the United Co, says that gasoline is 'gas', not gas, and that it does not intend to furnish both gas and 'gas' when its contract calls for only gas. Since the suit concerns the ownership of the 'gas' in gas, and is the first of its kind, it will be pushed to a complete adjudication.' Now we know all about it."



"American motorcyclists enjoying a novel form of sport on the river Connecticut. The wheels and body of the sidecar have been removed and runners with spring seats attached in their place."

"IN ONE LITTLE CORNER OF THE LOWLANDS, prior to the war, every machine one saw was a P&M. According to this little group of riders the P&M was the only motor cycle with any workmanship about it, the only machine of decent design, the only mount worthy of a practical engineer and a gentleman. Personally, I appreciated the sterling qualities of the make, but after a few weeks in that district I began to loathe the P&Ms. Every few months I made a point of turning up on a a. 2³/₄hp works tuned Sunbeam, or AJS, or Douglas, taking on the best P&Ms of the neighbourhood, and beating them hollow. No matter. The P&M remained superlative, and when, on one occasion, my brother and I turned up respectively on a Scott and a four-cylinder FN we were simply scorned and jeered at as trouble seekers and experimentalists. I thought we should be mobbed, and the amusing part of the whole business was that not one of those dictatorial Scots had ever ridden anything but a P&M! One comes across a similar type of Triumph enthusiast. Everyone admits that the Triumph is a good machine and a splendid job, but—ye gods!—it is not the only motor cycle on earth! Changes are pending, and the old conservative brotherhood will do well to widen their outlook and give the new ideas a chance."



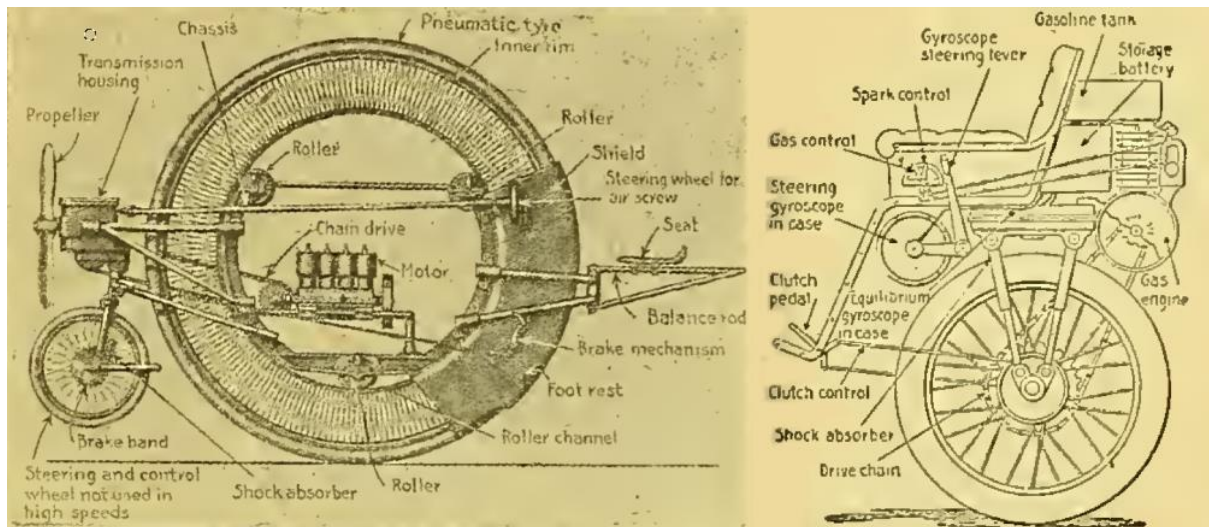
“The limit in passenger carrying. A four-passenger sidecar attached to a Reading standard. The scene is in the Italian Alps, at a height of several thousand feet.”

“MOTOR CYCLES AND MORALS: We have always held that motor cycle riding as a pastime is good for both mind and body, consequently we are extremely gratified to read a letter from an American lady to the Federation Of American Motor Cyclists secretary concerning her son, who is in the US Army. ‘His lieutenant,’ she writes, ‘told us that our boy goes straight, leads a good life...We gave him a good motor cycle and kept him out in the open, encouraging him to ride in the holidays. It kept him from hanging around town and away from bad company. If we had the means we would furnish every ‘wild boy’ with a motor cycle, and send him out to ride every time he was idle.’”

“USE OF COAL GAS: In view of several recent prosecutions for the illegal use of coal gas, it may be as well to remind readers that this substitute now comes under exactly the same restrictions as petrol. There is certainly the minor difference that if a permit can, be obtained for the use of a motor vehicle the amount of gas that is used is not restricted, but the permit for using the machine is just as necessary if the machine is to be run on coal gas as if it is to be run on petrol.”

“MOTOR CYCLING IN HOLLAND: The Dutch Army has many motor cycles, including Douglas (English), Excelsior (USA), Eysink (Dutch), Harley-Davidson (USA) and Simplex (Dutch).”

“A HOOD AND SCREEN is the latest gadget on a motor cycle. The crossing of Salisbury Plain in a gale during a London-Exeter trial will now lose its terror (!).”



Left: "A curiosity in American motor design. If a unicycle could be driven with a smaller resistance and at greater speed than a bicycle, if it could be built more economically or compactly or could be operated more safely or enjoyably, and if small air-screws could be made to apply an effective thrust against the atmosphere, the combination might lead to desirable results. But in each of these things it is inferior, and their combination multiplies the degree of inferiority to the motor bicycle...It will be noticed that, judging from the relative positions of the sliding seat and the footrests, the wheel would be nine to ten feet in diameter, while, although the four-cylinder engine is presumably of the water-cooled type, no provision is made for the cooling of the water...What, happens while the driver is climbing into his seat can be better imagined than described, but it is more, difficult to imagine how such a contraption would be replaced in a vertical position after having fallen over upon its driver." Right: "A single wheel motor cycle, having gyroscopes mounted in vacuum cases to steady it...An electrically driven gyroscope is intended to maintain the machine in an upright position, while a second gyroscope is installed on two bell crank levers to operate the steering. One would imagine that, if such a machine were got under way, it would be very unpleasant for the rider should the electrical connections short circuit or the accumulator run down while travelling at a high speed. The bizarre idea is essentially American."

"SIR,—I HAVE OFTEN WONDERED why there are so few really efficient front wheel brakes fitted to machines. Even on a first-class motor cycle a bad front wheel brake is often to be found. For instance, on my own mount (a well-known make) there is fitted a rim brake, cycle fashion, which has proved to be useless. Not that I have often had occasion to use it. When I first bought the machine, new, the brake was set so that it did not come within half an inch of the rim, and even after careful adjustment it barely touched the rim, much less stopped the machine in emergencies. Also on heavier sidecar combinations poor front brakes are found. Is this not a question which needs more attention both by manufacturers and designers?

RJ HUTCHISON.

“IN THE UNITED KINGDOM the motoring registration during the war have steadily declined. In the United States the reverse has happened. During 1917, which was America’s first year of the war, there was an increase of 1,396,324 cars and motor cycles over 1916. The total registration in the United States on January 1st, 1918, was 5,000,000, which means that there is one motor vehicle to every 20 people in the country. Two years ago there was one for every 40 people. In the British Isles the pre-war ratio was one motor for every 100 people.”

“ONE OF THE GREATST PROBLEMS to be faced when motor cycling becomes normal again is the question of garaging. Already little groups of motorists in the provinces are making plans to build co-operative garages in which to store and repair their macliines.”



“A

tiny motor cycle lately made its appearance in New York. It is called the Mon-Auto, and is only 48in long and 18in high, and only weighs 50lb. It is fitted with a single-cylinder engine and magneto ignition.”

“THOSE MOTOR CYCLISTS WHO DENOUNCE high road speeds wholesale are probably men whose hours on the road are so limited that every moment in the saddle is a joy to them,” Ixion suggested. “Let them extend their sympathy to riders like myself, whose mileage perhaps approaches a quarter of a million. Much as we all love our tight little island, no sane man can deny that considerable patches of its road system are

exceedingly dull. At first acquaintance, plus the stimulation of an unwonted ride, it is possible to jog slowly over such stretches, and to enjoy the experience. But when one traverses them for the umpteenth time, they become a bore. These duller patches are often comparatively open and empty of traffic. I know many of them over which a cautious rider can maintain an average very considerably in excess of legal limit for hours together, without endangering himself or anybody else. On such rides experienced men naturally open the throttle, and most of us do a bit of road burning. It does not follow that we are soulless maniacs. Put us in a Devon lane, or on Dartmoor, or round Whitby, or in the Lakes, and we jog along at a miserable potter, with our eyes right off the road.”

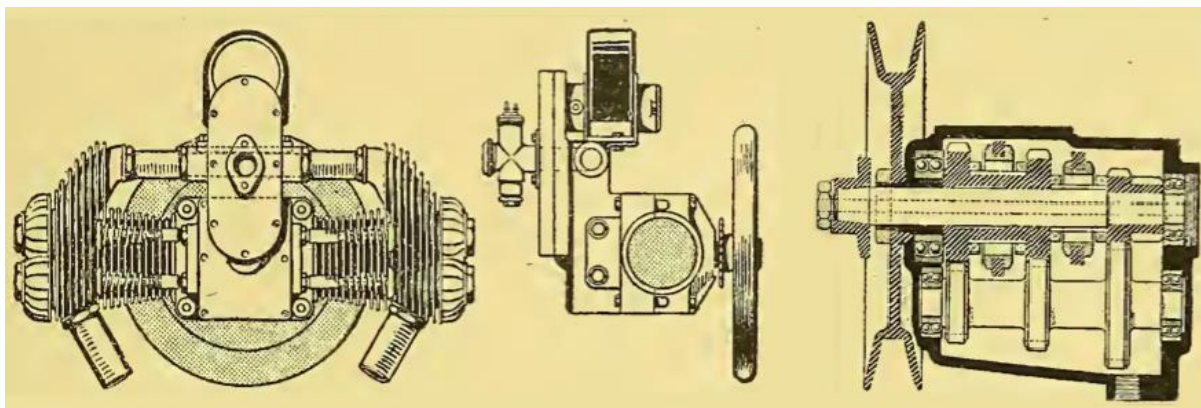


Left: “A Red Cross 8hp ambulance outfit: This unique sidecar is a recent production of The Campion Cycle Co, Nottingham, and permits the patient to lie flat or sit in a normal position. Right: “A machine gun being fitted to a sidecar for use in an emergency.”

“COMING EVENTS ARE FORECASTED in the patent files, and, while thousands of inventions are patented and then forgotten, when a large concern such as the Raleigh Cycle Co patents designs for flat twin engines and four-speed gear boxes one may deduce that this firm is interested in motor cycles. There is no oubt that a motor cycle by the famous Nottingham concern will create a great deal of attention both in the trade and among riders generally, and one may say that the re-entry of a Raleigh ito the world of motor cycles would be welcomed, especially at a time when appears that several makes, more or less well known before the war, may be absent when the peace models come to be scheduled in a buyers’ guide.” However, within a week...”Sir,—With reference to the prediction that Raleigh will market a post-war motor bicycle with flat twin engine and four-speed gear, we should like to point out that we have no intention of doing this. It is true that we have patented a four-speed gear box, but any motor bicycle we put on the market will incorporate the Sturmey-Archer three-speed countershaft gear, which has been so well proven on despatch riders’ machines during the war.

THE RALEIGH CYCLE CO,

Harold Bowden, Managing Director.



“A flat twin engine recently patented by the Raleigh Cycle Co. The Raleigh four-speed gear box.”

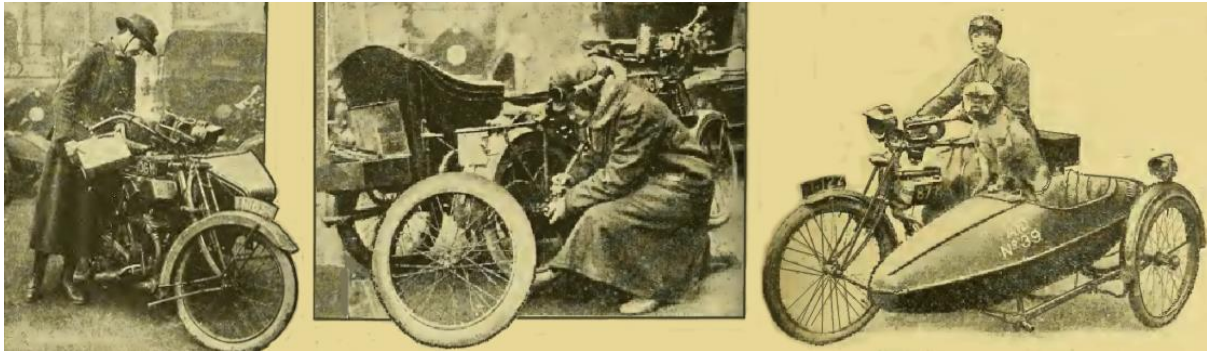


“The preliminary model has been on the road since April, 1917, so it has had a very thorough testing, and has acquitted itself in a most satisfactory manner.”

“A HARLEY MYSTERY: Who is the driver of a Harley side-carrier outfit to be seen daily in South London who wears a civvy pre-war Brooklands outfit and a silver badge? His identity is concealed by a brown leather helmet and goggles. A policeman at a point crossing held up the traffic on his approach, and gravely saluted the rider, who returned it. What are the contents of the sidecarrier? Who is the rider? A former famous despatch rider’s name is mentioned. He is attracting attention at places as far as Woolwich and Bromley, besides the City and West End, and his skill in handling the mount is commented upon.”

“THE FEDERATION OF AMERICAN Motor Cyclists is in the United States what the Auto Cycle Union is in this country. We learn, certainly with some surprise, that Canadian motor cyclists are anxious to ally themselves to the FAM. This seems a curious idea, because, however efficient a body the FAM may be, we should imagine that Canadian motor cyclists were quite capable of organising their own governing body, and so be

independent of control by a body belonging to another nation, however good the feelings between the sister countries may be.”

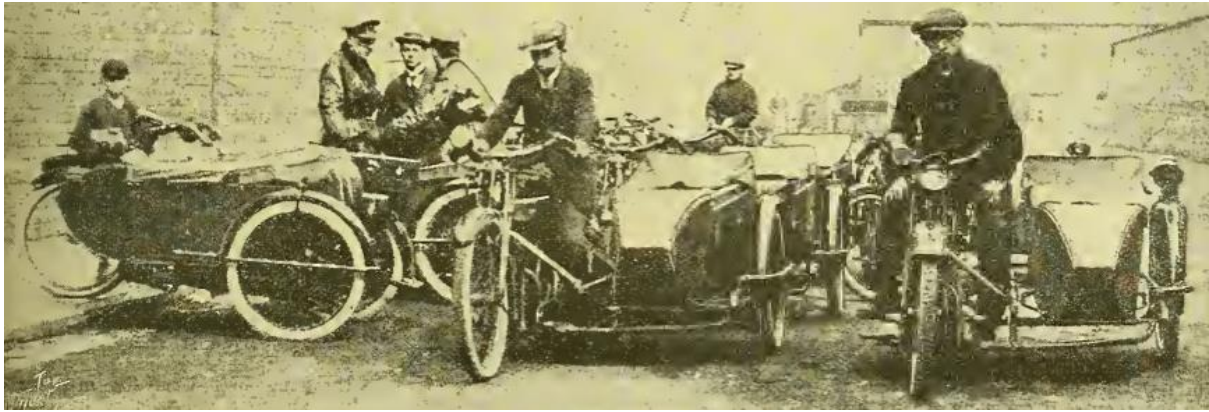


Among the organisations supplied with chauffeuses by the Women's Legion was the Aeronautical Inspection Department. Riding Clyno, Douglas and Triumph combos the women (who were in the Motor Transport section of the Army Service Corps) transported factory inspectors. There was a squad of mechanics for overhauls but the women handled routine maintenance including tyre changes.

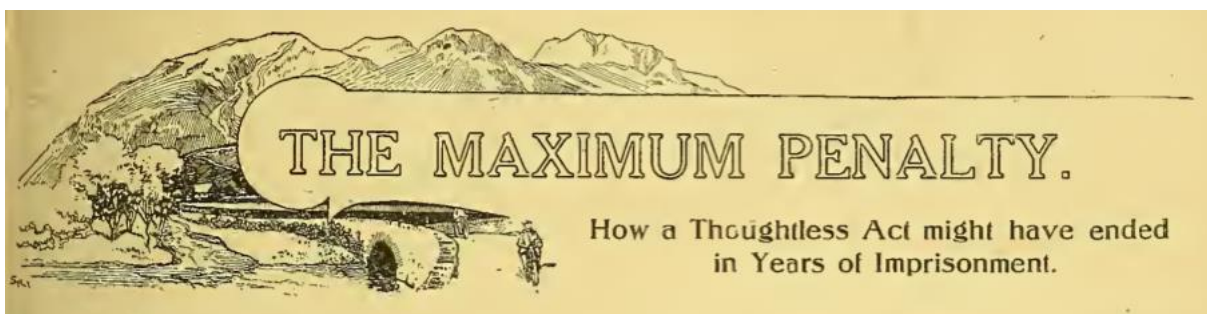
“A LEADING MANUFACTURER informed me the other day that he would have scrapped side-by-side valves years ago, but for the fact that the average buyer will have nothing to do with ohv. I was amazed to learn that such a prejudice exists. It is certainly non-existent in sporting circles, and it is not easy to account for its prevalence amongst the potterers. Presumably they have been frightened by ancient tales of broken valves smashing the piston. The maker in question was rather dubious about his post-war design, considering that the prejudice against ohv, of which he spoke quite dogmatically, would still be invincible. It is quite probable that any firms who cling to the side-by-side valve will ‘crab’ the ohv to the best of their ability and repeat or invent tales of its dangers in bygone days. Nevertheless, it should be perfectly safe to plunge on ohv. Broken valves must be the sole root of the suspicion which used to exist, and broken valves have been few and far between of late years. If makers will be conscientious for a year or two, and avoid using cheap and unsuitable steels, this silly prejudice will die a natural death.”

“IT MAY NOT BE GENERALLY known that a large number of Triumph two-stroke lightweights are in use by His Majesty's Services Overseas.”

“WHAT'S IN A NAME? American motor cyclists appear to enjoy the distinction of being a race apart if their names stand for anything. ‘Bud’, ‘Tad’, ‘Ed’, ‘Rube’, ‘Art’, ‘Jake’, and ‘Van’ are only a few of the many peculiar curtailed names they adopt.”

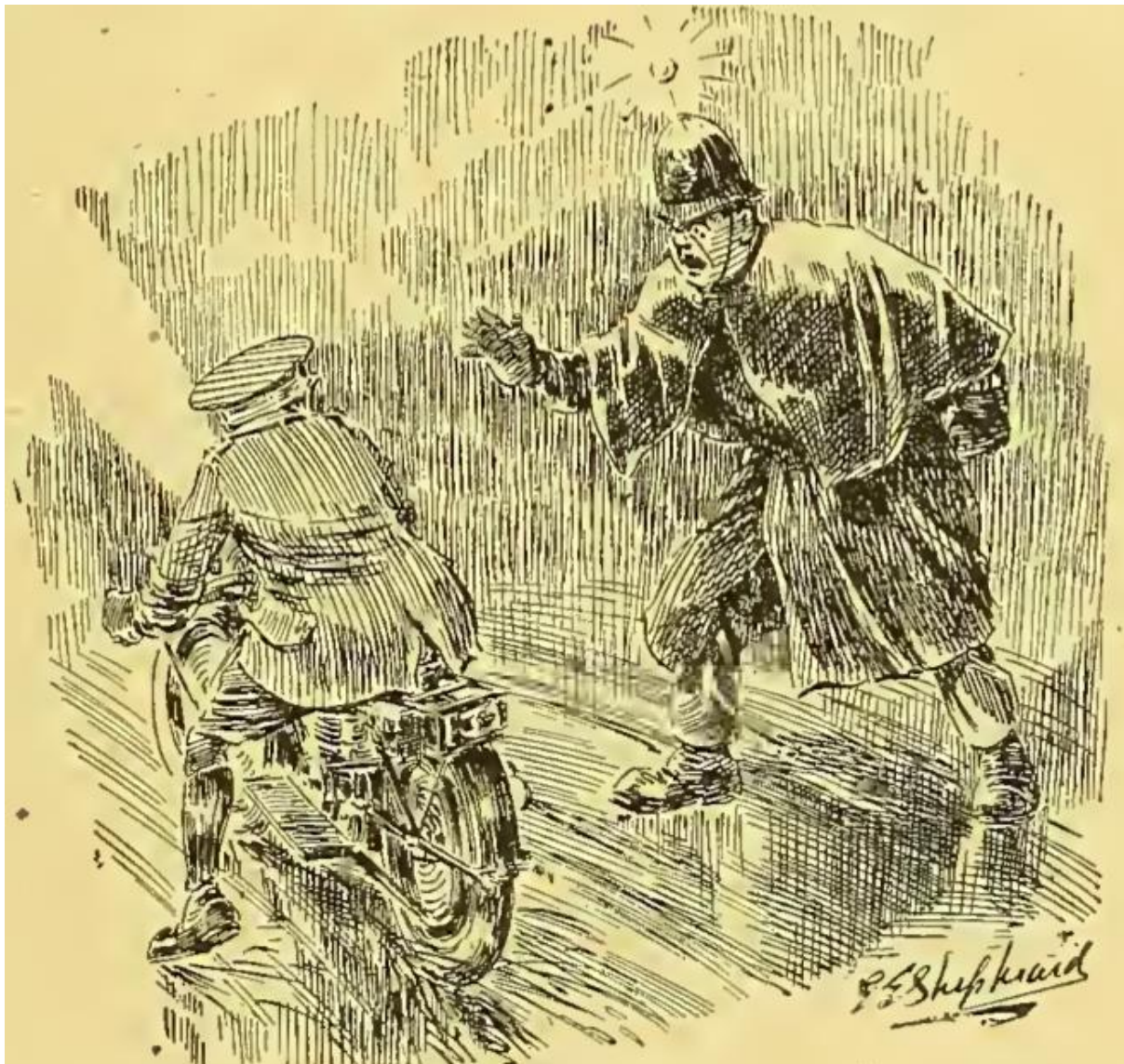


“A group of 4hp Douglas sidecar outfits, destined for war service, about to undergo a road test before delivery. Mr SL Bailey, of Douglas Bros, is seen in conversation with the two officers in charge of the test.”



THE LEAVE BOAT LANDED ME AT ——— on the day on which motoring for pleasure was forbidden; but ten days' leave to England render one a little reckless, and it took me some two seconds to decide that I would ride my old Triumph and chance it. Petrol, that mystic and forbidden liquid, had lain hidden in my shed for two long years—petrol, not of that paraffinish, Government variety, but of the good old No1 Shell brand. The bicycle I discovered to be a dust-covered patchy affair of rust and Vaseline. The jet had choked itself in the twelve months that had elapsed since my last leave, and the rocker arm of the magneto was stuck permanently open. But the engine would go round, and the tyres were in fair condition. A few minutes' attention to the magneto and carburetter, a little Pears soap on an old leak in the tank, a gallon of petrol, a pint of oil—and the machine was ready for the road. My first run finished at a garage in Birmingham, where I left the old bicycle until the end of the evening. Emerging from a second-house music hall, I sought in vain for a restaurant where I could get some coffee; but, cold and defeated, I decided to go home on a tram rather than skid through the November fog on a smooth-tyred, single-g geared motor bicycle. So I reached the tram terminus ten seconds after the last tram had left it. Taxis seemed non-existent, and had they been in evidence their drivers would probably have refused to take me the distance. A five-mile walk seemed almost more disagreeable than a five-mile 'mud-plug' so I went off to the garage and devoted half-an-hour to my ancient lamp. This finally responded to efforts by bursting into a flame which blew out the glass and cracked the reflector; but by this time I was too disgusted to worry, so I shoved the machine from the garage and ploughed off

through the filmy darkness. For a mile or so my journey was without incident, if one excepts a few skids in avoiding late theatre-goers and others with a desire for suicide. The engine chugged along well, and the lamp, pointing, like Agnes Wickfield [*a David Copperfield reference, dear reader; these were literary times*], sweetly skywards, gave a fair imitation of a 'miniature mobile searchlight'. This glare on the fog cut off my vision, and made steering rather difficult, but by leaning well over to the right and tilting my head a bit further I managed to get a restricted view. Presently I noticed a red glimmer some twenty yards away to the right, and as I drew nearer I saw that it was a small red lamp. Suddenly it began to bob up and down, and a second later came leaping across the road towards me. Fog, we are told, may penetrate the brain; in this case, at any rate, I had a fleeting vision of a crash as I swerved violently away from the little red light. It was not until I was recovering (with much foot assistance) from my skids that I remembered the Birmingham custom. For, since the darkness of the streets, the learned councillors



“Now then—Wotcha!”

of Birmingham have supplied the police force with little red electric lamps, set like an apple on a hat-pin above the helmets of the traffic controllers. 'Now then! Watcher—' was all that I heard from the sound-box under the lamp before the Triumph had borne me out of earshot; and, being once passed and lost in a world of fog, I felt little disposed to go back and see if he wanted to borrow a match. Policemen at all times are no men to consort with, and a single-gear 3½hp is not pleasant to start on a slippery gradient. Ten minutes after the incident I had pushed the machine into its garage, where I noticed that the tail lamp had gone out. Next day I looked over the machine and thought carelessly of the night before. I remembered the little red lamp—and the incident made me smile. Then I thought again, and saw in it a more serious light. Supposing the 'arm of the law' had shouted me to stop? Supposing, after all, he had not wanted to borrow a match to light his—er—slide lantern? What if he had imagined I was driving to the danger of the public? Policemen's imaginations were, as I knew to my cost, of a most remarkable and elastic nature. *If* he had ordered me to stop—and in my pessimistic mood I would not give myself the benefit of the doubt—I had committed a 'crime'. I laughed and told myself I should be back in France. I felt the front brake, thought of the extinguished tail lamp, remembered the petrol licence—and fled into the house for a sheet of paper.

The First Step in a Career of Crime.

Hurriedly I enumerated my crimes and shivered to myself as I thought of them. I had started, twenty-four hours before, on a harmless motor cycle run of some twenty miles in length. I had finished it and had slept, as I thought, the sleep of a just and weary man. Now in the cold, clear daylight I realised my 'frightfulness'. Here is the list of my misdeeds: (1) Driving to the danger of the public; (2) Disregarding the policeman's signals; (3) Carrying a head lamp which could be swivelled up and down; (4) Riding with number plates not illuminated (head lamp pointed at sky); (5) Riding with number plates which, even if illuminated, were quite illegible; (6) Riding with number plates which, even if illuminated and legible, were fictitious; (7) Carrying too powerful a head light; (8) Carrying no rear light; (9) Driving a motor cycle fitted with a silencer cut-out; (10) Driving a motor cycle without an instrument (except the engine!) capable of giving 'audible warning of approach'; (11) Driving without any sort of licence to obtain petrol; (12) Driving for 'pleasure' after prohibiting law; (13) Not being in possession of an Inland Revenue licence; (14) Carrying no licence to drive any sort of motor vehicle at all! (old licence had expired two years ago!); (15) Driving a motor cycle not fitted with two independent brakes. Having enumerated the offences I placed them in two classes: *Class A*—Offences under the Motor Car Act, Nos 1, 2, 4, 5, 6, 8, 9, 10, 13, 14, and 15. *Class B*—Offences under the Defence of the Realm Act, Nos 3, 7, 11, and 12.

A Fugitive from Justice.

I now observed myself to be a criminal of the most hardened and pronounced type. Even a hurried return to the zone of hostilities could scarcely save me from fifteen different offences committed at the same moment—four of which offences came under

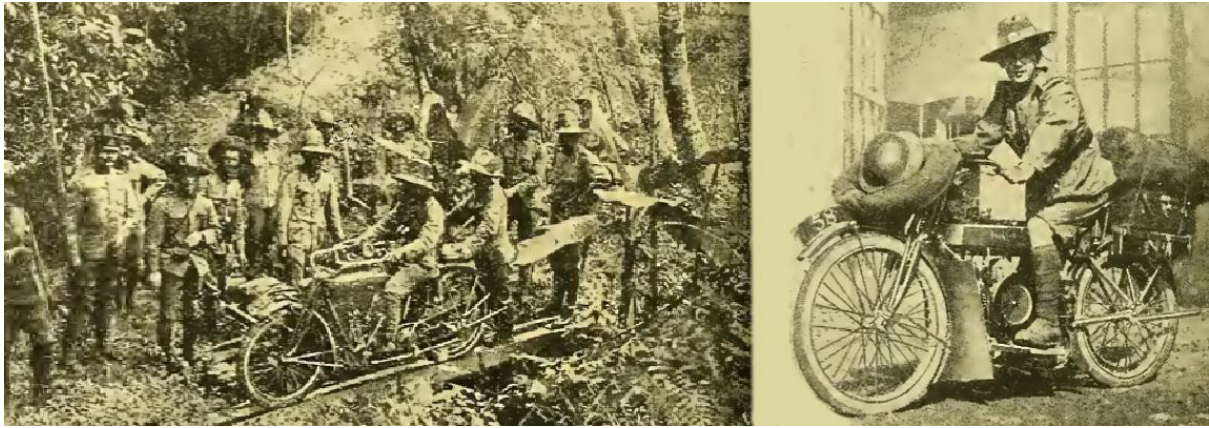
that most stringent of all Acts, the Defence of the Realm. The Passchendaele Ridge was no health resort, but its dangers seemed slight to those of the police court and the dock. But there was one saving point: *I had not been caught*. I returned to the shed, locked the doors, and threw away the key. Then I felt that I was fairly safe, but I was interested in the matter, so I settled once more to my slip of paper and worked out, very roughly, the maximum penalty. (Natural modesty—and a sneaking fear—prevented me from going to the local police and discovering from them the accurate greatest fines or terms of imprisonment which could be imposed by a stern judge or magistrate.) ‘Driving to the danger of the public’ might be rewarded by a £50 fine or several months’ imprisonment. Disregarding the policeman’s signals might be taken as a terrible offence, and met by a similar punishment. The number plate offences were not so serious—except the last, which I had read in the papers once cost a cycle repairer twenty pounds. Nos 8 and 10 were comparatively slight affairs, but in respect of a silencer cut-out I had already suffered twice. Nos 13, 14, and 15 might between them run to about £100 fine or a year’s imprisonment.

Safe at Last!

Then I turned to Class B, and as I thought of the possibilities in that direction ‘the sweat poured down my brow’ (as the novelists would say). Carrying too powerful a head light—and a swivel one at that—was an offence which could only be connected with German spies and aeroplanes, and the penalty might be ‘death or some such lesser punishment as is hereinafter mentioned’. Here I fainted (almost). The last two offences, for which I might reasonably have been prosecuted, could scarcely have cost me more than £100 or a year’s prison, and they therefore seemed trivial to those which I had already committed. The total amounted to some few thousand pounds in fines, about thirty years’ hard labour, or, in atonement for all, death!

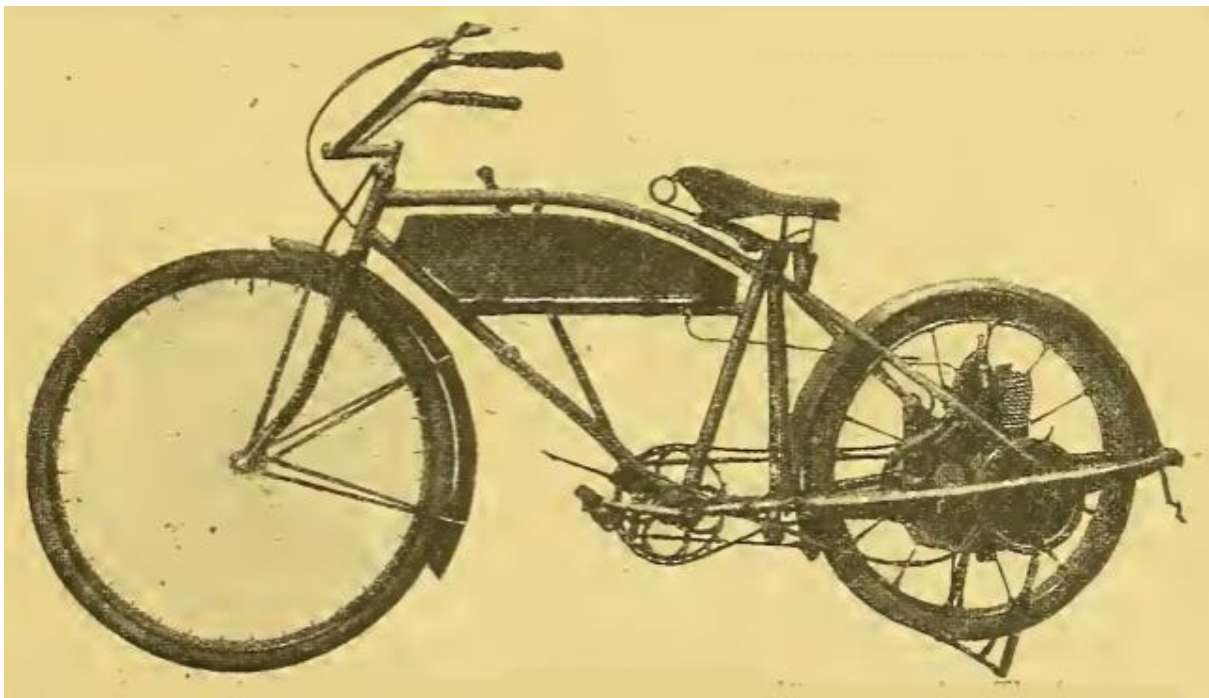
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A few days later I was back in London with my ten days’ leave near its end. The horror of the police had gradually left me, and as I walked about Piccadilly I was filled with a vast contempt for their trivial authority. Smoking a cigarette, I crossed the street boldly and swung my cane perilously near an immovable limb of the force. Then I ran into an APM, who wanted to know (1) why my shirt and collar were nearly white, (2) why I was wearing shoes instead of boots, and (3) my name, address, and unit? Truly are the police like the poor, for in some form or other they are ever with us! But, thank heaven, I am now back in the Line, and can write this and think over my misdeeds in safety and peace. **GD**



Left: "During recent army manoeuvres Indian motor cycles were used by despatch riders. The photograph shows some of the difficulties encountered whilst passing through the jungle." Right: "A DR with full kit on the Italian front. His mount is a WD Douglas."

"ON THIS PAGE WE ILLUSTRATE America's latest effort to produce a lightweight motor cycle, and, to the English eye, the result is a hybrid. It is known as the Haussman weighs 110lb, and consists of a Smith engine built into a 24in rear wheel with $\frac{1}{4}$ in steel spokes. The spokes are 'off-centred' so that the weight of the power unit is carried in the centre of the wheel. It will be noted that the frame is of peculiar construction; but, to our eye, does not justify the American description as following 'graceful, motor cycle-type lines'. A free engine clutch, hand-operated, provides an absolutely free wheel, and it is said that the machine can be pedalled almost as easily as a bicycle. The makers are Messrs the Haussman Power Bicycle Corporation, of Milwaukee, USA."



"A recent American production described as a 'graceful' motor cycle. The frame design speaks for itself."

IN 1914 BRITAIN PRODUCED about 100 magnetos a week; the vast majority of motor cycles that boasted magneto ignition (estimated by *The Motor Cycle* “as nine hundred and ninety-nine out of every thousand”) came from Stuttgart and carried the name Bosch. But four years later *The Motor Cycle* announced, with lashings of smug: “For several years before the war this journal urged that more magnetos should be made in this country. The necessity for this was made manifest when war broke out. It was poor consolation for us to be able to say, ‘We told you so.’ It is far greater pleasure for us to note the magnitude of the British magneto industry now so firmly established. This new industry has filled the gap which threatened to handicap our forces in the field. It has done more. The British magneto of to-day is a far superior instrument to the pre-war product from Stuttgart...The theory of Bosch infallibility has been exploded...There are over twenty models standardised for motor cycles. These include four makes of magneto for single-cylinder lightweights, three for small flat twins, one for small V twins, five for medium-powered singles, two for large flat twins, two for large V twins, and one for small four-cylinder engines...war has shown that the principle of co-operative action on the part of makers—exchange of ideas and discoveries among the best electrical brains in the country—has far greater value than for each individual to plough his lonely furrow.”



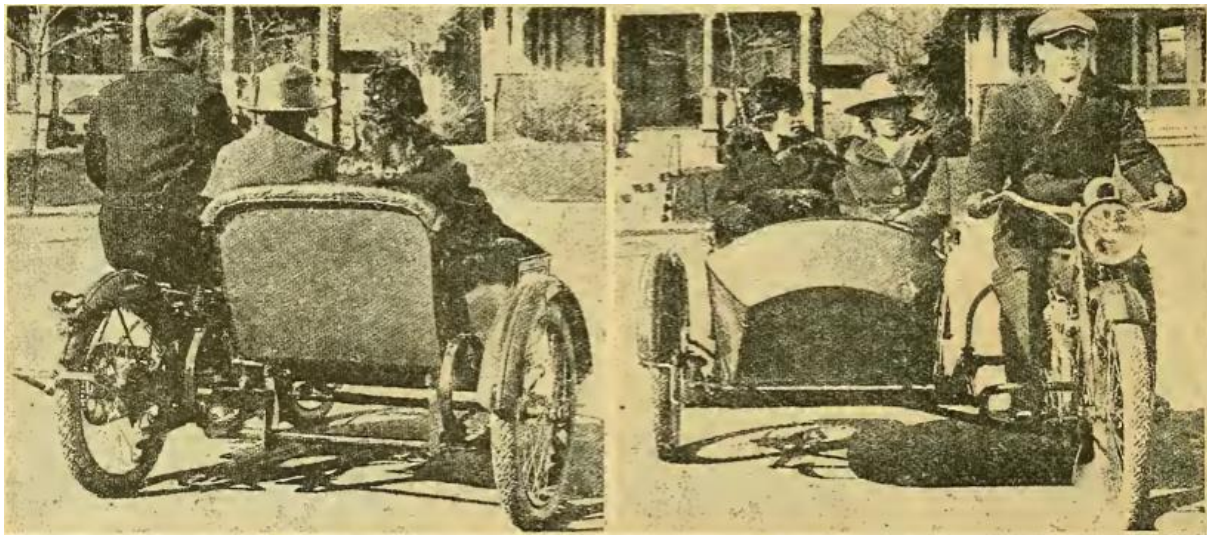
“A BSA sidecar and a machine gun outfit which took part in a recent Tank procession. The drivers in both photographs are lady employees of the BSA Company.”

“CHIEF OF THE PENGUINS: Miss Violet Douglas-Pennant, sister of Lord Penrhyn, has been appointed commandant of the Women’s Royal Air Force.” [*Women in the RFC were known as penguin’ because they wore the wings of the RAF but did not fly.*]

“A BSA sidecar and a machine gun outfit which took part in A recent Tank procession. The drivers in both photographs are lady employees of the BSA Company.”

“DESERTED ROADS: During a cycle ride of over 80 miles at the week-end on Midland roads, one of our staff saw only three cars and not a single motor cycle.”

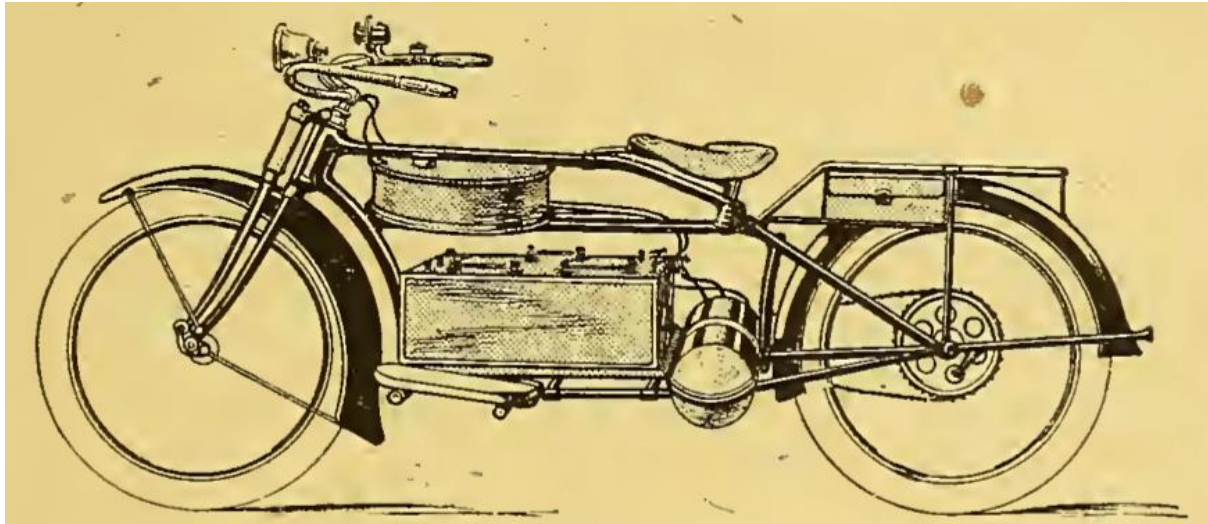
“THERE IS NO SURER SIGN that the petrol shortage is genuine than the fact that American clubs are holding consumption trials. A few years ago the American motor cyclist troubled little whether his machine consumed a gallon every 40 or every 30 miles.” At a “conservation trial” in Toledo, Ohio an Excelsior combo did 76mpg; a solo Harley won its class with 112.4mpg. At a trial in Cleveland, Ohio what was claimed to be a standard Indian returned an unprecedented 180mpg—the first seven competitors all averaged better than 100mpg, The big twins consistently proved thriftier than the lightweights. In all 25 clubs staged consumption trials. The averages were: heavyweight solos, 94.7mpg (ranging from 61.2-180mpg); heavyweight sidecars, 76.4mpg (ranging from 49.6- 98.8mpg); lightweights, 98.2mpg (very few lightweights entered).



“Two views of the new two-seater Harley-Davidson sidecar. Such practice is not new by any means in England, though it has not ‘caught on’ to much extent. Just previous to the war, however, it seemed as though the idea might become more popular, as several sidecars of this type were seen about.”

“FROM A NORWEGIAN SOURCE comes a description of a motor cycle driven by electricity, which has been invented by Johannes Bjorge, of Christiania, Norway. We are in some doubt as to whether it is a completely designed electric cycle or an ordinary American motor cycle converted for the purpose. It appears to be the usual type of frame for a four-cylinder engine with accumulators in place of the engine unit, and an electric motor mounted in place of the usual countershaft gear box driving the back wheel direct by a chain. The elliptical box in place of the tank contains the controllers and regulating devices. A trial demonstration was recently given before a number of Norwegian motor cycle representatives, and their reports are favourable. The weight is about the same as that of an ordinary motor cycle. There is said to be sufficient power in the storage battery fitted for about forty-five miles riding, but the inventor is at work on a specially-constructed battery, which he hopes will give a range of seventy-five miles without recharging. The maximum speed is about forty miles per hour on the level...A further development upon which the inventor is working is a permanent addition to the

machine to facilitate recharging wherever electric current is available...We imagine that many English riders and makers have considered the pros and cons of this method of driving a motor cycle, and possibly have arrived at the decision that the probable result is not worth the expense. The electric motor cycle is still some way ahead in the future. There is no reason why it should not come, but steam may turn out to be a serious opponent."

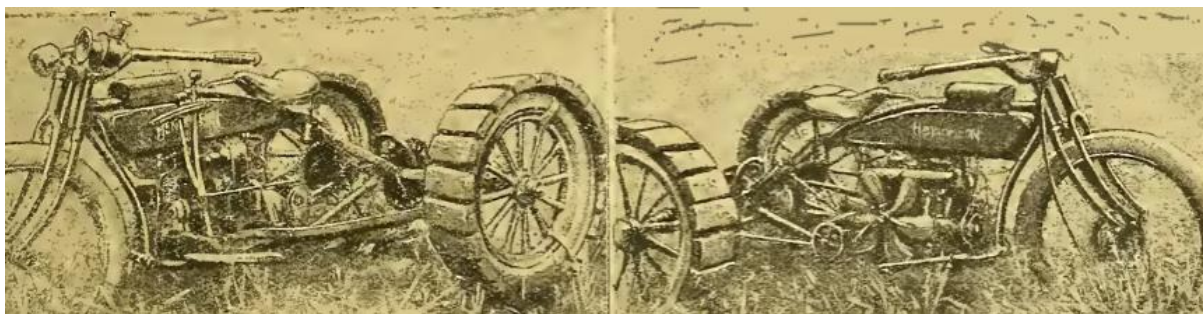


Johannes Bjorge's electric bike was said to have a top speed of 40mph with a range of 45 miles.

"MOTOR CYCLES FOR THE USA ARMY: For carrying on the war, the USA Government has purchased 3,520 passenger automobiles and 6,126 motor cycles. This will clearly show how greatly the motor cycle is valued by the army of our newest Ally."

"WHEN WILL SOMEBODY design us a really waterproof boot? At this season of the year one may run into some very nasty little storms; but who wants to be encumbered with Hutchinsons? Water creeps into the laceholes, the thin leather of the tongue is soon sodden, you feel an oozing round your toes, and the next stage is quinine and eucalyptus! Surely it would be possible to design some kind of foot gear which, if kept decently dubbed, would afford adequate protection."

IXION'S CRYSTAL BALL could be overly optimistic: "When the motor cycle weights of the future are discussed, people always seem to take it for granted that there will be no advance in metallurgy. If I live to be a really old man, I expect to see my grandson straddling a motor bicycle as bulky as those of to-day, and scaling 50% less; in other words, I will venture a prophecy that the 1960 edition of the, let us say, Triumph roadster will look as big as the 1917 model, but will not weigh more than 112lb." If Ixion could have looked forward a 100 years we can only wonder how he would have reacted to a 2018 Triumph Rocket 3: 2,294cc, 146bhp...and 797lb.

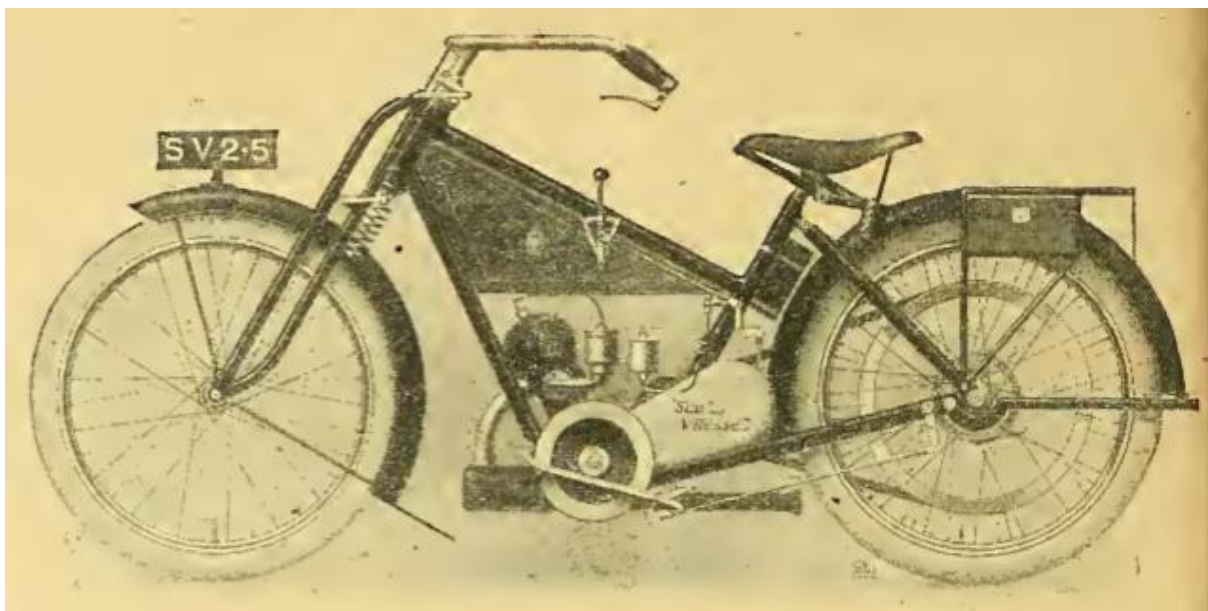


Long before British riders were referring to Harleys as tractors an American peanut farmer converted his 1917 Henderson into a tractor able to pull a 12in plough. It could be converted back to a solo withing 30 minutes.

“THE SPIRIT OF THE PASTIME: There is more in motor cycling than in most sports and pastimes. Despite the petrol restrictions and the fact that nine-tenths of pre-war motor cyclists are in khaki, the interest in motor cycle design always shown by our readers is as keen as ever.”

“THE POST-WAR SUN-VITESSE TWO-STROKE: An entirely new lightweight embodying many striking departures from accepted practice. New models are few and far between in these days; there is therefore added interest in the new light-weight which is to form one of the chief items in the after-the-war programme of the Sun Cycle Co of Birmingham. This firm, in conjunction with the makers of the Vitesse engine unit, have gained a reputation for sound work in past years, and their lightweight should give much satisfaction. They have effected a complete re design, and the result is a mount of appearance altogether different from that of the former Sun-Vitesse models. Primarily, it is intended to be produced at a remarkably low figure. One model only is to serve for riders of both sexes, and simplicity throughout is the chief feature...The cylinder is inclined forward at about 27°...the crank case bolts solidly into the frame lugs without bearer plates...The gear box is mounted above the frame with the idea of providing as straight a line of drive as possible from the engine-shaft through the counter-shaft to the back wheel...Such a promising design should certainly form a distinct forward step in the progress and popularity of the post-war two-stroke lightweight.” Before long the Blue ‘Un got its hands on one: “Trials of new motorcycles are not often enjoyed in these days, and what follows cannot be called a description of a trial of a complete machine, but only of an engine, viz, the Sun-Vitesse. This engine is manufactured by the Valveless Two-stroke Engine Co, of 303, Broad Street, Birmingham, and was sent to us for trial by the Sun Cycle and Fittings Co, Aston Brook Street, Birmingham, who have the handling of the Vitesse engines. As the frame to which this engine was fitted for experimental purposes was an old one, we do not propose to discuss it in detail, and it will suffice to say that it was comfortable to ride and possessed a Sturmey- Archer three-speed hub. It is no exaggeration to say that it was without exception the most comfortable and best balanced two-stroke engine that we have ever ridden. At about 25mph the machine would run very pleasantly over country roads. By this we do not mean to imply that

25mph was its top speed, for we exceeded 30mph on many occasions, 33mph being the highest speed noted...we rode up a fairly long hill with a grade of 1 in 12, which is a fair test of a small two-stroke's capability on top gear at a speed which did not drop below 19mph. On another occasion we took a light passenger up the same hill, using the middle gear for part of the ascent out of kindness to the engine, though we think that the highest gear would have sufficed to complete the climb...The machine was used almost daily in rain or shine, and on one or two wet mornings an advantage of a hub gear on a belt-driven motor cycle was apparent, for when the wet belt was inclined to slip on a hill a change to middle gear made an immediate improvement, owing to the fact that the belt was then running at a higher speed compared with the speed of the road wheel, and at a lower tension...On the whole, we enjoyed our fortnight's running on the Sun-Vitesse, and were very sorry to part with the little machine when time came for us to return it to its makers, for the more we rode it the better we liked it."



"This new model, with an inclined engine unit, is quite distinctive from former Sun machines."

"ENGINE STARTERS. Since the introduction and abandoning of engine starters by the Merkel and Indian makers we have heard very little of 'press the button' devices on motor cycles. It may be remembered the Merkel device was an arrangement of springs, while the Indian was electrical...A 'week-end' experimenter is working hard perfecting a hydraulic engine starter for motor cycles for which he claims that by turning a tap and sitting upon the saddle the engine will be made to start."

"CELLULOID FINISH: We have heard of experiments in connection with celluloid covering for the tubing of motor cycle frames. The handle-bars of Rudge machines have been so treated for some years."

“SLEEVE VALVES? Recently we saw a V twin-engined motor cycle which was as silent as a car. Apparently it was fitted with sleeve valves, but our view from the upper deck of a tramcar did not permit a close examination.”



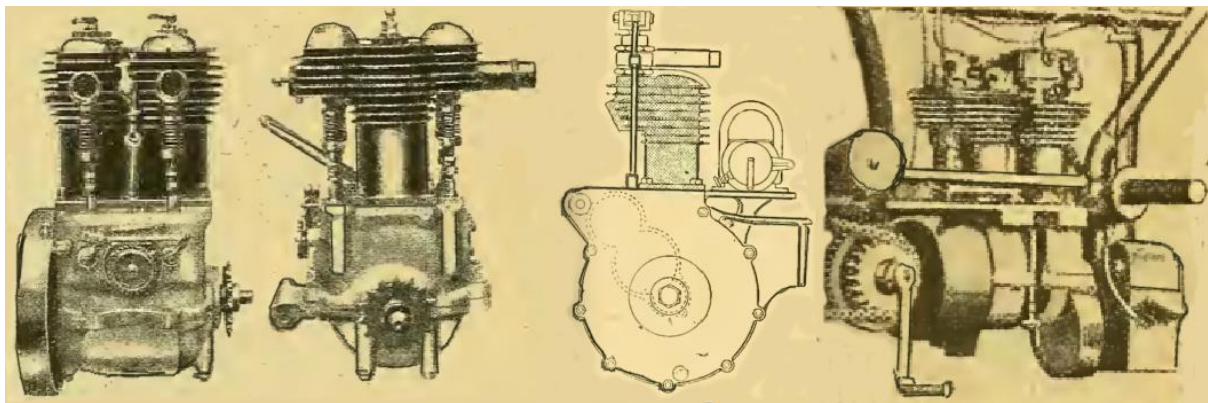
“In the land of the vines: A convoy of motor cycle machine guns in Italy. Little has been heard of late of this particular arm, but it is doing good work many fronts.”

A GASEOUS UPDATE FROM IXION: “Wild rumours reach the office that an irrepressible motorist, shorn alike of his gas and petrol permits, has invented a retort which brews an uncontrolled gas, consumable in petrol engines. No details are yet to hand, and it is hardly conceivable that any form of the retort should be sufficiently portable for motor cycling purposes. But what a brain, gentlemen! I am perishing to get hold of the recipe, if only that I may annoy my local constabulary until the Petrol Controller takes this fuel also under his paternal wing. I have even lain awake at nights scheming how to house a wood fire in a steam motor bicycle, simply to get my own back on the blue-coated Prussians who beset me when I use my two gallons per month. But a retort to brew uncontrolled gas—why didn’t I think of it?”

...AND, FROM THE SAME SOURCE, a petrol update: “Two gallons a month used to go a long way with certain people. A shrewd constable, himself a pre-war motor cyclist, reckoned up their apparent mileage, and found their monthly mileage worked out at over 400. If he had been genial and unintelligent, he might not have smelt a rat; but as it was, he reflected sourly that they worked at a Government factory, to which petrol was supplied for official purposes. So, when ‘all the shops were humming, early in the morning, he crept cat-footed in the official garage, and gauged all the fuel tanks, repeating the process towards evening. An ignoramus might have fancied that petrol expands at the rate of 50% during eight hours in a cool shed. Not so our plain, intelligent constable. The Berkeley Street list of permits is now fractionally shorter. Even so, they do these things better in France. What’s the matter with dyeing all official petrol?”

STILL IXION, AND WE'RE BACK TO GAS: "I hear a certain garage habitually uses coal gas for the quick diagnosis of 'won't startitis'. A rubber tube connected to the gas-supply is pushed into the air intake of the carburetter. If the engine will then start, the trouble has to do with carburation; if the engine still will not start, it is 100 to 1 on an ignition defect, with a distant mental reservation in favour of valve trouble. A similar method is useful for warming up engines which will not run steadily on war spirit until the cylinder is hot."

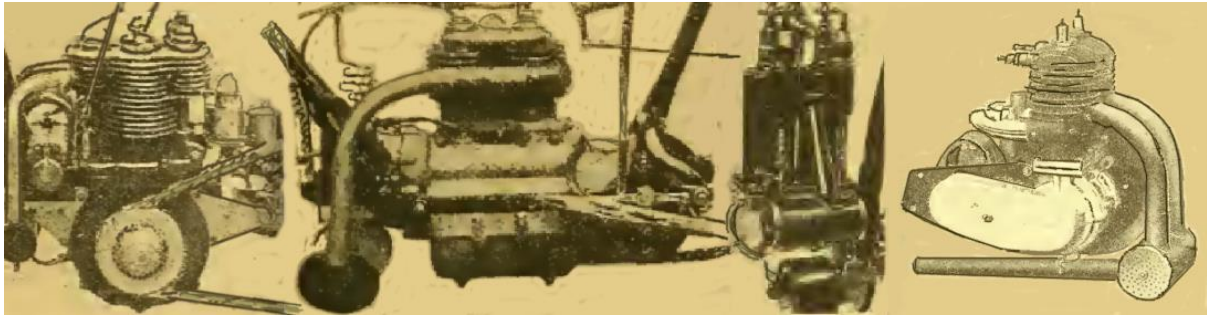
"THE SIDE-BY-SIDE TWIN ENGINE: Excepting those that have the two-stroke type of engine, there are no motor cycles on the market to-day that are fitted with side-by-side two-cylinder engines. Yet this type of power plant offers certain advantages over other types more favoured by motor cycle engineers...Unfortunately, the 'vertical' twin has not been sufficiently developed to allow a motor cyclist to judge its merits in comparison with the V and flat twins and singles...The Allon and the Premier twin two-strokes were introduced only just prior to the war, and their debut as marketed machines has been



From left: What might have been...the Triumph vertical twin created great interest in 1913; 3½hp 485cc Centaur twin; 1909 Moto Reve vertical twin.

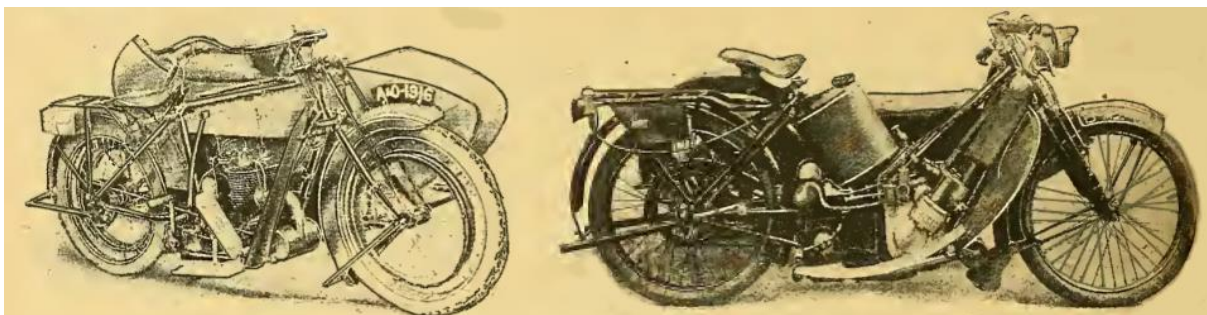
postponed. However, every rider of a Scott will confirm that, on the point of balance, his vertical twin offers very decided advantages over the V twin...The vertical two-cylinder engine with 180° cranks has several points to recommend it. It is excellently balanced, it is compact—a most important point where motor cycles are concerned—and it can be made more accessible than any other type of engine, excepting the single...Quite a number of motor cycle concerns known to present-day riders have experimented with vertical twins in various forms. The Scott Co, Alldays and Onions, and the Premier Co introduced side-by-side two-stroke engines, while the Rudge, Singer, Centaur, Quadrant, LMC, Triumph, and AJ Stevens concerns have made twin vertical four strokes. The Rudge engine was just an adaptation of two 3½hp single-cylinder units placed side by side in a motor cycle frame...As far back as 1903 a French racing machine was fitted with a 14hp vertical twin air-cooled engine. In 1904 the Stevens engine was introduced, and also the Werner 4hp engine with cylinders 60x75mm. In 1905 there were the Bercley 5hp 70x80mm engine and the French-made Rochet motor cycle. The Bercley engine appears to have been favourably received by several motor cycle manufacturers, for in

1906 and 1907 the Royal Consort and the Ottaway machines were fitted with it. In 1908 the LMC was introduced, followed by the Moto-Reve in 1909, and the Alcyon in 1911. During 1910



From left: The 1905 Bercley was an early proprietary engine; Rochet unit construction in-line twin; 1908 LMC twin; 1912 348cc Levis two-stroke twin.

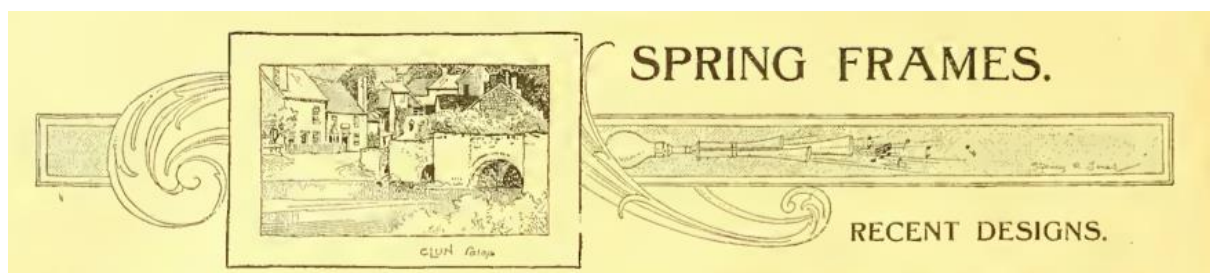
the Centaur Co experimented with a small vertical twin-engined motor cycle, which was a very nice little machine in many ways. The air-cooled cylinders were cast en bloc, and had mechanically operated overhead inlet valves. The bore and stroke were 70x63mm...A side-by-side Levis two-stroke was exhibited at the 1912 Olympia Show. This twin engine was exceptionally neat, the cylinders being 58x66mm, which gave a total capacity of 348cc...it was not marketed owing to the demand for the popular single-cylinder model being more than the output facilities of the Levis works...1913 saw a vertical twin Triumph engine on the road in an experimental form...embodying a worm-driven camshaft across the crank case between the 180° cranks, which carried cams at each end...The Triumph, probably, is the most interesting motor cycle engine of the side-by-side four-stroke type...The, American M-B machine appeared about this time, and also another French production—the Herdtle-Bruneau...should shaft transmission become popular the vertical twin will be more suitable, than either the flat or V types. Much depends also on the development of the two-stroke cycle, as an engine of this type with side-by-side cylinders and 180° cranks is equal to a four-cylinder on points of balance and firing torque. If the two-stroke is eventually made equal in overall efficiency to the four-stroke, the side-by-side engine certainly is a type of the future.”



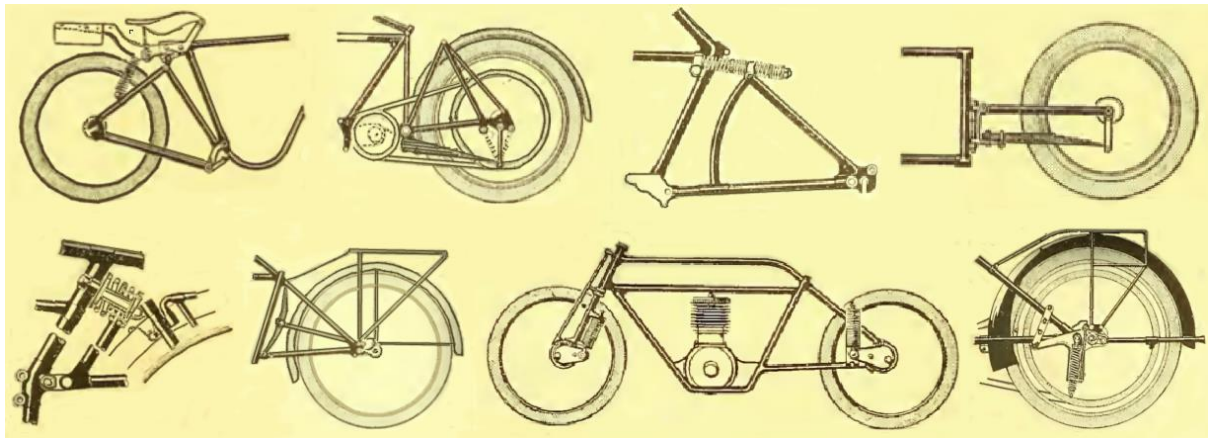
Two-stroke side-by-side combos. From left: 6hp Allon and 3 3/4hp Scott.

“GAS COMPANIES AND BENZOLE: By an Order in Council recently published all gas companies are compelled to extract all benzenes from their coal instead of letting them pass into the gas. This means a lowering in the calorific value (or heating and illuminating power) of the gas, but the supply of the raw materials for explosives is at the present time more important than the satisfactory working of gas stoves in houses and works. Will anyone succeed in convincing the Government that the same will be true after the war—with home-produced fuels in lieu of raw materials for explosives?”

“A 540MPH RACING WHEEL: A Gyroscopic Unicycle for which the Inventor makes Some Startling Claims. There is now building in America a remarkable unicycle which has a wheel of 14ft diameter, an aeroplane engine, and a pair of gyroscopes. This, the inventor claims, will be able to travel at the incredible speed of from four to nine miles a minute. The inventor of the gyroscopic motor-driven unicycle, as it is described on the Letters Patent of the United States, is Mr EJ Christie, who has the degree of Master of Science...has constructed a working model, 20 inches diameter, and weighing 60lb. It is driven by an electric motor of one-fifth horse-power and has operated so perfectly that the inventor has no doubt of the equally efficient action of the wheel now building...the man-carrying unicycle will be of 14ft diameter. The motive power is a Heath aeroplane engine of 300hp weighing only 550lb. [*Naturally one would expect a high speed from so powerful an engine, but the air resistance would be enormous at the speed suggested. About 150mph would be the absolute limit of the machine—Ed.*]”



“SINCE THE LAST OLYMPIA SHOW there have been over 116 spring frame designs reviewed in the pages of The Motor Cycle, from which we may well assume that our campaign in favour of rear springing has borne fruit. Perhaps it would be more correct to use the simile of the blossom and the fruit, as the greater number of the designs referred to is but the former. However, if the ‘fruit’ be in proportion to the ‘blossom’ many post-war machines will have spring frames. In the meantime the rider’s interest in rear springing is keener than ever, while those who are still permitted to use their machines constantly write to us that in their opinion the springing problem is subservient to no other. Among the many firms who are displaying interest in the springing problem, we may mention the makers of the Royal Enfield, Matchless, Douglas, Royal Ruby, Raleigh, Rex, Veloce, ABC, and Zenith.”



The Motor Cycle reviewed “eight springing devices patented during the last few months. From top left: “The Taylor device; the Hayward design; the patent of designers directly connected with the motor cycle manufacturing world—JJ Richardson and FT Downes; the Forknall device; the Enfield patent; the Getty patent spring frame and detachable wheel; the McLeod patent; the Billington device which is so designed that it can be used readily to convert existing models into spring frame machines.”

“IT APPEARS TO BE GENERALLY ACCEPTED that the cost of post-war machines will be higher than the pre-war product, if only for the reason that manufacturers will embody additional features in their new models. Before the war buyers were expressing surprise that prices had been on the up-grade for several years. On investigation, however, facts are revealed which explain why a machine, which in 1910 was, say, £47, should be £60 in 1914, and why the post-war model may be £70, even without consideration of the probable increase in cost of materials and labour. The £47 machine of 1910 was a single gear model, consisting of little more than an engine and frame. Then came clutch models, two-speed gears, three-speed gears, kick-starters, chain drive, chain cases, etc. For their post-war machines motor cyclists will expect detachable wheels and spring frames, and all these things cost money. Many riders are clamouring for dynamo lighting, and this will be a standard feature on many machines. There is a distinct indication that several machines will be placed on the market after the war fully equipped with a small and efficient combined dynamo and magneto, as we have already suggested, and if this comes about it would be still more difficult and ridiculous to compare prices of machines so different in important details. And then there is the question of the machine equipped with ordinary fully- fledged dynamo lighting outfit and electric horn, etc.”



“Very little is heard at the present time of the motor machine guns in France, and many people imagined that they had been withdrawn from the Western Front. But the reverse is the case; they are doing good work there, and are very much alive...The machine gun outfits are Clynos, fitted with the Vickers gun.”

“A SHORT TIME AGO we saw on the road a motor cycle which appeared to have a 3½hp single-cylinder engine and a small two-stroke, placed tandemwise. They appeared to be connected to the back wheel independently, and both were working.”

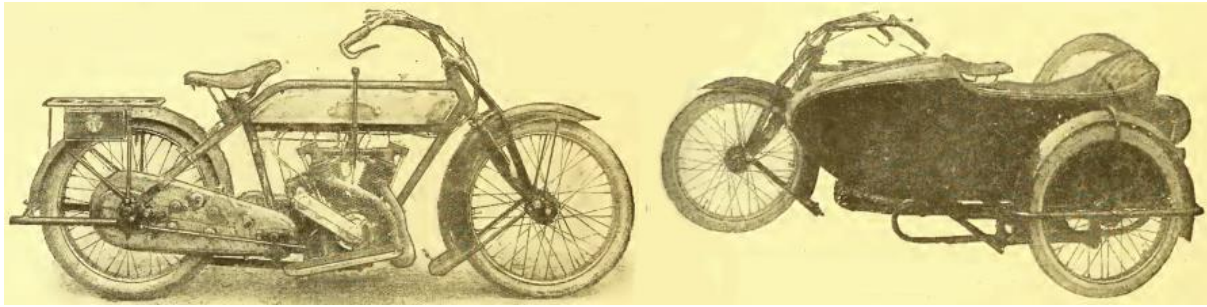
“THE CHANNEL TUNNEL AGAIN: Apparently a trip to the Continent after the war will be a much more enticing proposition if the Channel Tunnel scheme, voted on last week by the International Parliamentary Commercial Conference, becomes in fact accomplished. The advantage to motor cyclists is obvious.”

“A SERGEANT IN THE AMERICAN ARMY gives an interesting insight into the life in a motor cycle repair shop in France...’We made hybrid Harlindians by putting Harley-Davidson forks, handle-bars, and controls on Indians, made Indian front springs out of Harley-Davidson sidecar springs, put Harley-Davidson sidecars on Indians, and Indian rear wheels on Indian sidecar chassis...’ He points out that most of the smashes are due to inexperienced drivers, and not to any wear or faults in the machines. Most of these seem to be due to the rider’s driving too fast. ‘What becomes of the riders,’ he says, ‘I don’t know, and I don’t wish to see one. They make such complete wrecks of the machines.’



“A snapshot taken in the courtyard of a Trappist monastery about fifteen miles north-west of Jerusalem. In the foreground can be observed a captured German motor cycle, a twin Wanderer. The rider of this machine, a German despatch rider, came coolly sailing along the road, blissfully unconscious that English troops were in close proximity. He rode right into the hands of an English mounted brigade. He was very calm, however, on being captured, and immediately handed his captors cigarettes.”

“WE ARE NOW ABLE TO GIVE the first English description of the twin Bianchi—a product of the famous car manufacturing firm. The general soundness of the design is at once evident...and with the single exception of the back wheel rim brake there, is little in the general design different from standard English practice. This brake is, however, a temporary measure and only an auxiliary, the main back wheel brake being of the internal expanding type. The engine is the famous MAG though after the war the makers of the machine intend to build an engine of their own. The spring forks are somewhat unusual in design, and it is on this account that both brakes have to be fitted to the back wheel, as the front fork will not allow of the fitting of a brake on to the front wheel...The machine has all the latest English features incorporated, such as detachable and interchangeable wheels, chain transmission through a three-speed countershaft gear box, and the clutch in recent models hand-controlled. The sidecar is of very pleasing appearance, and, besides being roomy and comfortable and having a rear locker for tools and spares, it also carries above this a spare petrol tank...If further Italian productions maintain the standard that appears to be set by this one, we shall look forward with real interest to developments, and especially to a new Italian fiat twin model.”



The WD Bianchi had “little in the general design different from standard English practice”.

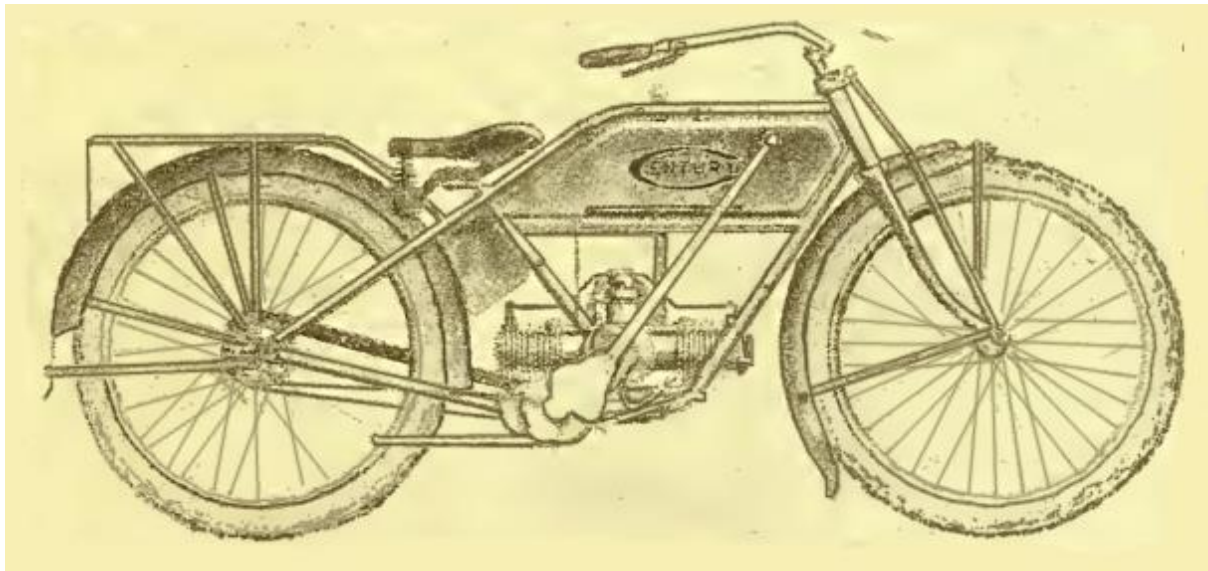
“THERMAL EFFICIENCY: IF WE COULD ONLY use half the ‘power’ that theory tells us we waste in known methods of using petrol in internal combustion engines, our engines would be very much smaller and our petrol mileage considerably greater.”

“Sidecars: There are one or two ‘experimental’ designs in sidecars running about in the Midlands. The works manager of the Triumph Co uses a particularly taking sidecar. Finality has not yet been reached in the coach-built variety.”

“PETROL FOR HUNS: THE BIRMINGHAM and District Committee of the Workers’ Union has sent to the Prime Minister and [cabinet minister] Mr Barnes a resolution protesting against the use of petrol for conveying German prisoners about the city when many of our men returning from the Front are obliged to wait at the stations from midnight till 5am before getting to their homes. Up to Christmas a number of motor owners drove home soldiers arriving on leave late at night, but petrol permits were then withheld and the work stopped. In spite of the appeals of the Lord Mayor and others permits are still unobtainable.”

NO NEW OR USED motor cycles could be sold in Switzerland without a government permit.

“AT THE RISK OF GETTING LYNCHED by a mob of justly exasperated readers,” Ixion wrote, “I will modestly remark that I am one of perhaps a hundred motor cyclists—hardly more—who know what genuine riding c- fort is. To taste its bliss you must possess four essentials, viz (1) a really efficient spring fork, (2) a really efficient rear springing, (3) a practically vibrationless engine, and (4) a first-rate saddle. Moreover, these four essentials must be combined in a single machine. I am one of the very few lucky riders who own such a specification, and, frankly, it puts one out of conceit with the ordinary stuff, and transforms the whole atmosphere of a ride. We are none of us so ‘nesh’ as we used to be, to quote a homely north- country expression: but neither the war nor anything else can make us put up with unnecessary discomfort; and comfort is a point of vital selling importance to which few British manufacturers have given adequate attention. The average first-class Yank usually has the average first-class Britisher ‘whacked to the wide’ in this respect.”



“The American Century flat twin two-stroke motor cycle, probably the only machine of its type to be marketed.”

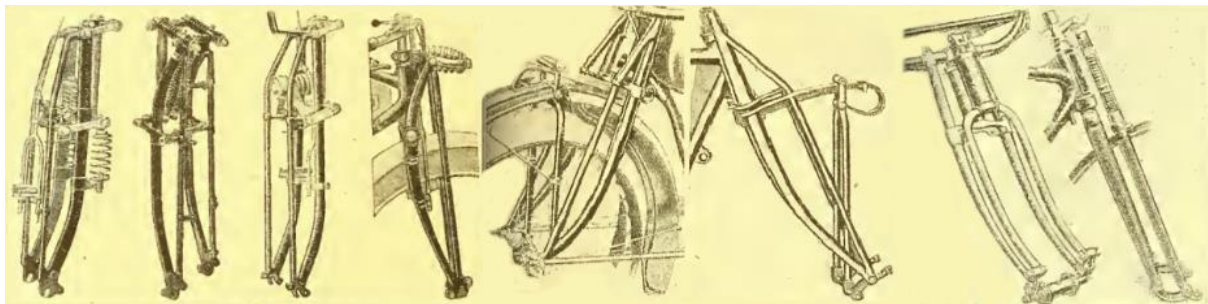
“THE METAL ROADS OF THE FUTURE, projected from time to time, are in a fair way to being anticipated by Whitehall. In the low evening light the whole road surface gleams with etceteras which have been decanted by passing ‘buses and taxicabs. Bedded-deep in the wood surface and polished brightly are nuts (square and hexagonal), spring washers, wood screws, and bolts, the whole road speckled with these unconsidered trifles. And they do not seem to be missed.”

“IT IS RUMOURED THAT GERMANY has produced a practically vibrationless Diesel engine which weighs only 54lb per hp, the fuel being paraffin.”

“THE RECENT TORRENTIAL RAINS caught hundreds of lady DRs napping,” Ixion observed. “It was pitiful to see a neat pair of khaki silk stockings after a flying trip at the bar of a sidecar down a London thoroughfare all abrim with liquid filth. As the weather stiffens up for the autumn I expect most of these dainty war-time chauffeuses will learn to despise appearances, and don Hutchinson waders or oilskin leggings. But their smiles never came off, even when their trim ankles had vanished under clotted alluvial deposits. After the war motor cycles are going to sell to the fair sex in increasing quantities. All the ‘army learnt’ lady drivers will want to motor, and comparatively few of them will run to cars. Now I notice that the girl riders do not seem to care for their kick-starters. Perhaps one of them will explain the reason. I merely observe that in nine cases out of ten the khaki-clad damsels start their sidecars by pushing in lieu of digging the starter; and I can only surmise that the feminine ankle is too weak to administer a sharp enough dig. The best of these starters cannot boast excessive leverage, and many of them are unreliable. Quite a number of middle-aged men similarly eschew the kick-starter...Let manufacturers rack their wits, and see if they cannot devise an improved starting mechanism. It has been badly needed for years, and the influx of thousands of girl riders and wounded men will accentuate the demand.”



“WE MAY SAY WITH A GREAT degree of accuracy that the shocks from inequalities of the road surface, which must be taken up by the springing devices, work in approximately a vertical direction. Some motor cycle spring forks move in a direction diagonally to the rear, and others in a direction quite contrary to this, ie, diagonally to the front. American manufacturers fit both types of fork to their machines, proving that they are not following any fixed theory.” Three of the four British designs illustrated were proprietary; all were what came to be known as girder forks. All four Yanks were in-house. The two girder designs featured leafsprings; the other two were what the Brits came to refer to as springers.



Made in England (from the left): Druid, Brampton, Saxon, Triumph. Made in the USA: India, Excelsior, Henderson, Reading Standard.

“AT THE BIRMINGHAM ROTARY CLUB, Mr A Butterfield, of [Levis manufacturers] Messrs Butterfields, Stechford, spoke on the future of the motor industry. He stated that in America the industry had received much more encouragement, with the result that while the population of the United States was only twice the population of this country the number of motor vehicles in use was at least five times greater. Yet there was actually a greater good road mileage in this country, than in America.”

MORE THAN 7,000 motor cycles were registered in India.

“PRESENT-DAY PETROL will not wash clothes—it stains them. At least, so we are told.”

“A REMARKABLE STATEMENT: The President of the Petroleum executive states that the petrol saved during the past year from civilian consumption is equivalent to a four months’ supply for The Army In France.”

“PETROL FOR MUNITION WORKERS: Mr AW Torkington, chairman of the National Motor Cyclists’ Fuel Union, has recently made representations to the Petrol Controller’s Department on behalf of munition workers, and it has been decided to permit those

engaged in munition work who are motor cyclists, and who have either a current petrol licence or a stock of petrol obtained with a petrol licence, to use their motor cycles for the purpose of going and coming back from the place selected for their holiday. No extra petrol will be granted for these journeys, and riders will not be permitted to use their motor cycles for any trip during their holidays, other than the journey to and from the holiday resort. In each case a special permit, granted by the Petrol Controller's Department, will be required. Before this is granted the circumstances of the case will be investigated by Mr Tofkington and the Ministry of Munitions, who will satisfy themselves that the applicant has a bona fide claim to the concession."



"A young wild boar, the mascot of a detachment of American despatch riders. By the side of an Indian motor cycle are the two DRs who captured the little animal." This affection for creatures of the porcine persuasion was not restricted to Indian riders. Soon after the war the Harley-Davidson racing team had a piglet as its mascot, which is why a century later Harleys are still known as Hogs.

"AT GRAND ISLAND, NEBRASKA, USA, a most successful motor cycle race meeting has been held. Don Johns, of Los Angeles, succeeded in winning the 100 miles prize on an Indian, covering that distance in 1hr 0min 22sec. The twenty-five mile race was won by Bagley on a Harley-Davidson. Time, 20min 19sec."

"ENGLISH AS SHE IS WROTE: Reading an American motor cycling paper recently, we came across the word 'petrol' with an asterisk beside it calling attention to a footnote, which reads 'English slang for 'gas'.'"

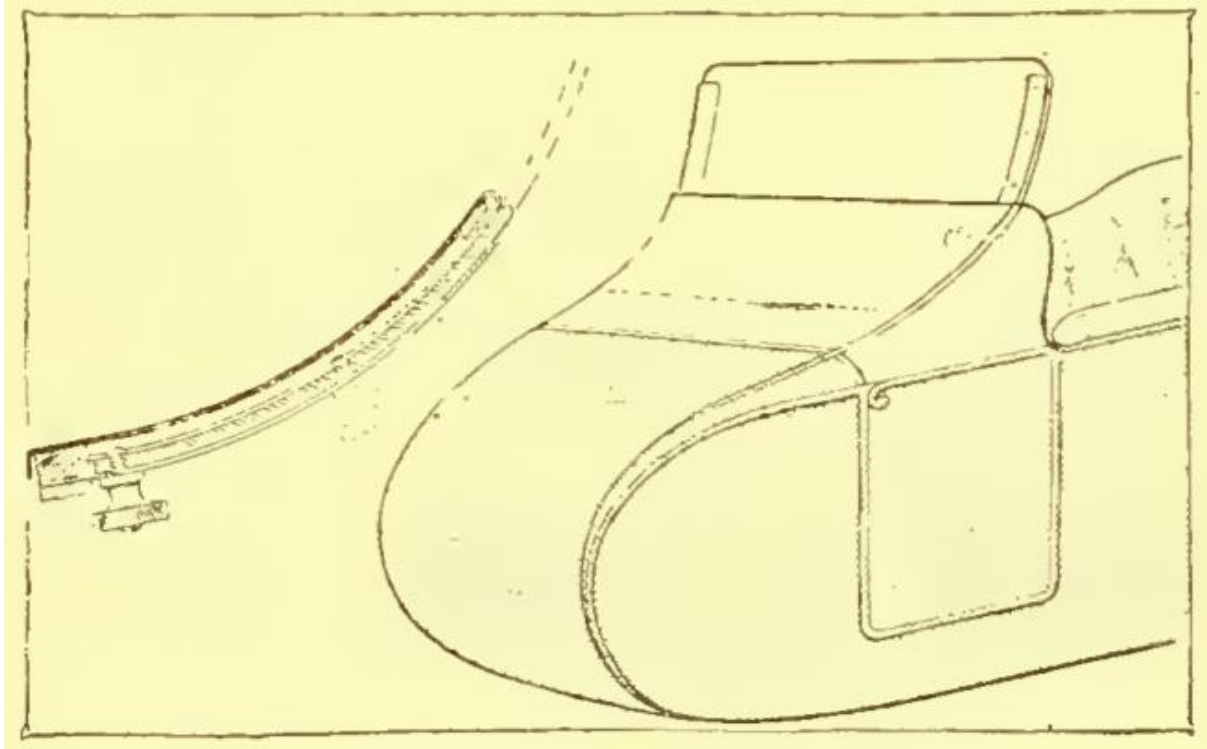
“A RECENT AUSTRALIAN ORDER stated that no magnetos bearing the name of Bosch will be admitted into Australia. The American Bosch Co is now renaming all those instruments for Australia, and they will go under the name of Liberty magnetos.”



Club life continued Down Under despite the war: the Newcastle MCC is pictured at Muswellbrook, New South Wales.

“IF MORE SIDECARS WERE FITTED with windscreens motor cycling would be even more popular with the fair sex...Those who have been driven for any distance in a sidecar along dusty roads know that a screen is more of a necessity than a mere luxury...The James Cycle Co has recently patented a design which appears to provide extra comfort for the sidecar passenger at this point. A transparent screen member is mounted upon a hinged cover which encloses the body at that part where the sidecar is located.

The screen is of curved form and is mounted in corresponding guides or recesses so that it may be pushed down out of sight when not required for use. Means are provided for locking the screen in position. It is not necessary for a screen of this type to be very high, as the curved shape gives the air an upward movement, which is continued after it has passed the screen. The draught is therefore carried over the head of the passenger, although the screen may not be as high as the normally shaped screen would have to be for efficient action.”

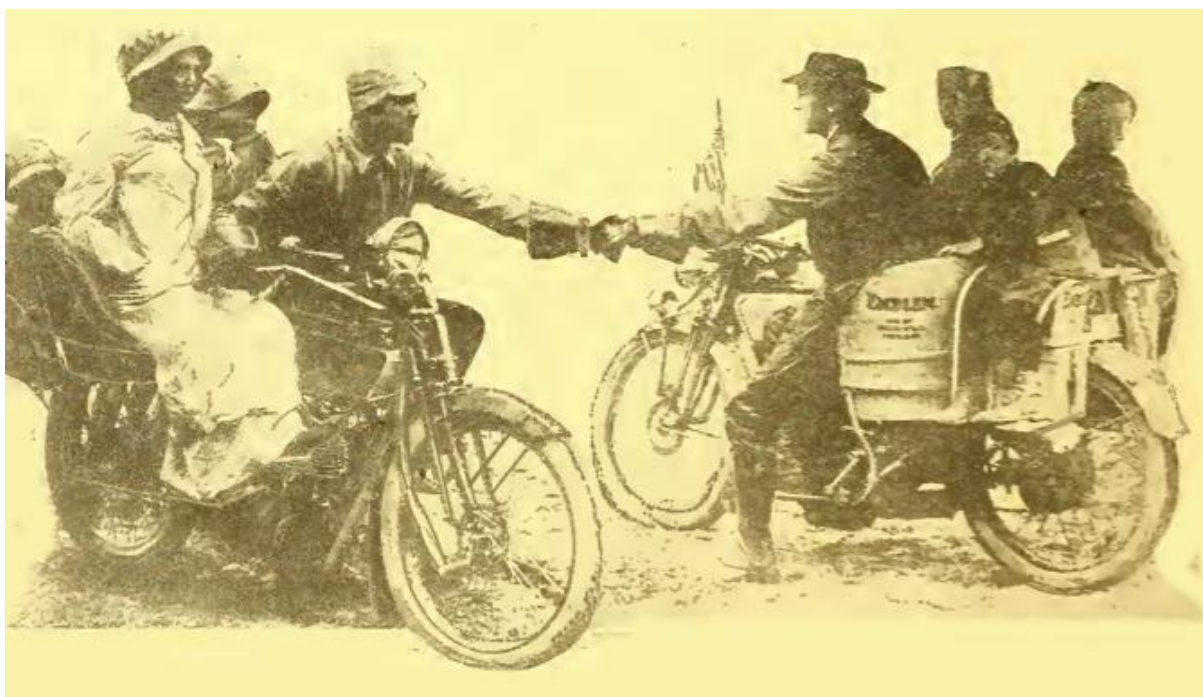


The curved screen on the James sidecar presaged the flip-top screens on modern fairings.

“REPAIRS TO THE EXTENT OF £10 may be executed on a motor bicycle without a priority certificate, provided that a declaration as to use accompany the order. It is understood, of course, that the use referred to must be one of those permitted by the authorities, viz, professional use by doctors, dentists, veterinary surgeons, and officers of HM Forces.”

“SIR,—NUMEROUS CASES HAVE COME to our notice of motorists purchasing our machines as 1914 models, when they were actually 1912. We would like to make it known to all motor cyclists that we are always willing, and in fact delighted, to help them in any way when they contemplate purchasing a second-hand machine, by notifying them of the date on which this machine left our works, if they will, before purchasing, communicate to us the number which they will find stamped on the timing gear cover of the engine.

THE CLYNO ENGINEERING CO.”



“An American Emblem twin, equipped to carry a family of four. The forward seats are arranged side by side; behind are two smaller seats placed back to back. Needless to say, we do not advocate this economical method of motoring. Surely the cost of the four seats and special fittings could not be very much less than that of a sidecar, and this method of travel would be infinitely more dangerous and uncomfortable.”

“I AM ONE OF THOSE ANCIENT DUG-OUTS who still hanker after the belt of our childhood’s days,” Ixion announced. “Unrepentant and unashamed, I still hold that the evil odour in which belts find themselves is ascribable to several factors for which belts, as belts, are not to blame. The sidecar did the belt a lot of harm. Small engine pulleys and cheap belts of too narrow a section, considering the engine power, further spotted its reputation. As I am not a sidecar merchant, I can lay my hand on my heart, and say that I want no better drive than a pukka inch belt on a 3½hp with an engine pulley giving me about a 4 to 1 gear on top. Then the amidships gear box came in, and the direct belt drive naturally became impossible: I am still at a loss to know why the chain-cum-belt drive has lost prestige, for I have never suffered from really bad slip with it, even when mountaineering on a lightweight in torrential downpours. I can only suppose that the sidecar gentry, who, like the Nationalists in Parliament, exercise an influence out of all proportion to their numbers, have had a rotten time with it. Anyhow, the all-chain drive was ‘it’ in 1914; and, to my thinking, a jolly indifferent ‘it’, too. Very few makers have turned out a chain drive which is really smooth, even when new. If you leave the drive naked, the silence and precision of your chains soon disappear: I know readers will write and claim to have done 10,000 miles on one set of chains: but it is nevertheless true that no genuinely fastidious owner would brag about such a feat, which simply advertises the fact that all his instincts are unrefined, and his perceptions coarse. On

the other hand, if you encase your chain, you lumber the machine up with a variety of contraptions which are always hideous, usually tinny, rattlesome, unspeakably awkward to dismount, and unspeakably more awkward to replace: in the few cases where they are quiet, efficient, and manageable, they are extremely expensive, and—as already stated—abominably ugly. Straws show which way the wind blows, and I notice with a half-malicious pleasure that the more advanced designers are now speaking depreciatingly of the all-chain drive, just as the pioneer brains were slighting the belt a few years ago. Some of the more conservative firms have just screwed themselves up to the point of adopting the all-chain transmission, and others of a more go-ahead type are already busy trying to get rid of it in favour of the shaft. It really looks as if all the varieties of drive were going to abide with us permanently, each in the class of machine for which it is most suited. Thus, the hot-stuff single-cylinder may cling to the direct belt : the 350cc flat twin may retain the chain-cum-belt: the single-cylinder sidecar slogger and the big V twins will presumably keep, the all-chain: and the bigger flat twins and the four-cylinders may transfer their allegiance to the shaft drive.”

“IT IS AMPLY NONSENSE,” Ixion suggested, “in face of a recorded majority verdict in favour of the 3½hp, 2¾hp, and baby two-stroke on British roads, to pretend, as some controversialists do, that the fine Indian, Harley- Davidson, and other 7-9hp twins are the only goods. Like our own heavy, high-powered machines, they appeal to a certain class of rider, and the choice between them and roughly similar British mounts is mainly a matter of individual taste. But contentment with lower speeds and an unswerving stipulation for lower weight are such fundamental principles with thousands of buyers that the big twin would not appeal to these riders if it were cheaper and better than rival types, which it is not. One man’s meat is another man’s poison, even in the motor cycling world, and there are plenty of keen riders who are left stone cold by the 60mph solo, 45mph with a sidecar, spring frame, and dynamo lighting and starting with which a big twin seeks to decoy them away from their light four-stroke or lighter two-stroke.”

THE MOTORISED BICYCLE.

Some Notes on Auxiliary Attachments and the Ultra Lightweight Motor Cycle.

THE ORIGINAL CONCEPTION OF THE MOTOR CYCLE was a bicycle with a small engine to assist the rider. Fifteen years ago The Motor Cycle referred to the 3½hp machine as a high-powered model, and to-day there are potential buyers of motor-driven machines who tell us that they aspire only to own a machine with just sufficient power to make pedalling easier. At the back of their minds they compare ‘horse-power’ with that of the quadruped, and think that a small pony will supply all, and more than all, the power they require. It is a mystery to them that motor cyclists speak of 3½hp as being a shade on the small side to propel two persons when they know that a sturdy pony will haul a governess cart with four people. These potential riders of petrol-driven cycles want that

which the early designers set themselves to provide, ie, a motor-assisted cycle, or, as our



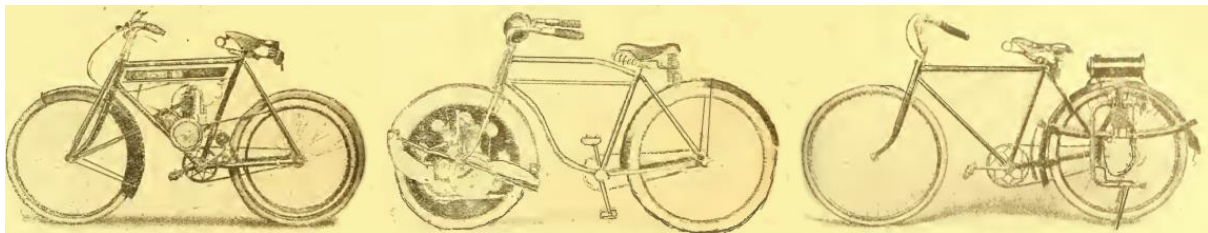
From the left: “The latest British design in auxiliary motor attachments. The Zephyr unit fits on the rear carrier and drives by friction wheel. The Auto-wheel, which, in America, is attached to bicycles, tricycles, carriers, four-wheel runabouts and scooters. The Okay, an American attachment driving the front wheel by frictional contact.”



The Autoped, which had become popular in the US with everyone from street gangs to starlets, was now being produced by Everyready. This presumably accounts for the move from magneto to battery/coil.

American cousins term it, a motorised bicycle. Undoubtedly there will be a big demand for such a machine, provided it is proved efficient and reliable. This class of machine may be divided into three groups: (1) the Auto-wheel type, which is self-contained; (2) the substitute wheel type, which may be described as an enlarged Auto-wheel, and is

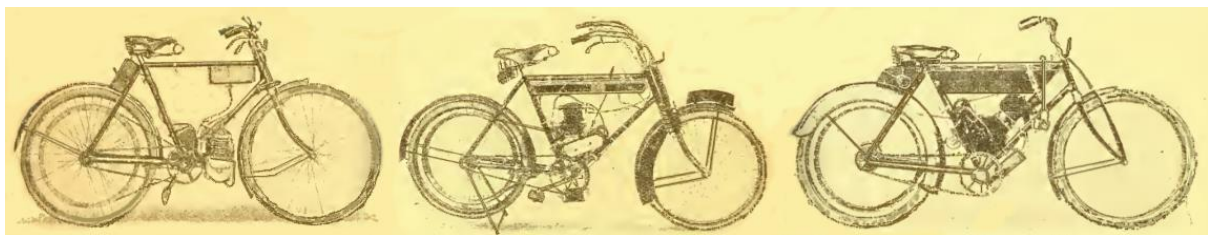
used to take the place of either the front or the rear wheel of a pedal cycle; and (3) those having an auxiliary motor for fitting to the frame or the carrier. The Auto-wheel has been a great success in America, where it is manufactured in large quantities under licence from Mr Wall, the English inventor. But for the war, probably we should have seen greater developments in this country. However, it is safe to say that the several similar units now produced in the States were inspired by the popularity of the Auto-wheel. The additional wheel has the great advantage of being entirely self-contained—it is, in reality, a small power provider harnessed to a pedal cycle, just as a pony is harnessed to a cart or a tug boat to a barge. Its disadvantage lies in the fact that a single-track machine is actually converted into one having two tracks, but, as these tracks are very close together, the disadvantage is not so real as it would be if the Auto-wheel were further away. Many years ago I fitted to a pedal cycle a miniature trailer carrying a Werner engine and supported by a castor wheel. The trailer was held by two extension arms of the rear stays of the cycle, and drove the rear wheel of the cycle by a chain, the castor wheel being used to support the weight only. An attachment of this kind comes into the same class as the Auto-wheel, as, like the latter, the frame of the cycle does not carry more weight than it is designed to carry. The Dayton and Merkel motor wheels, produced in the United States, are on somewhat similar lines to the old Singer motor bicycle, in which a self-contained motor wheel took the place of one of the wheels of the cycle. In the case of the Dayton wheel, the designers decided that it is better to place the motor in the front wheel, as the rear wheel has to support most of the weight of the rider. The makers of the Merkel take the opposite view, and, if given the choice of the two, no doubt



From the left: “The Imp, a British design of particularly neat appearance; the engine is a two-stroke. The Dayton (USA), a motor wheel replacing the front wheel of a bicycle. The American Merkel motor wheel, taking the place of the standard rear wheel of an ordinary bicycle.”

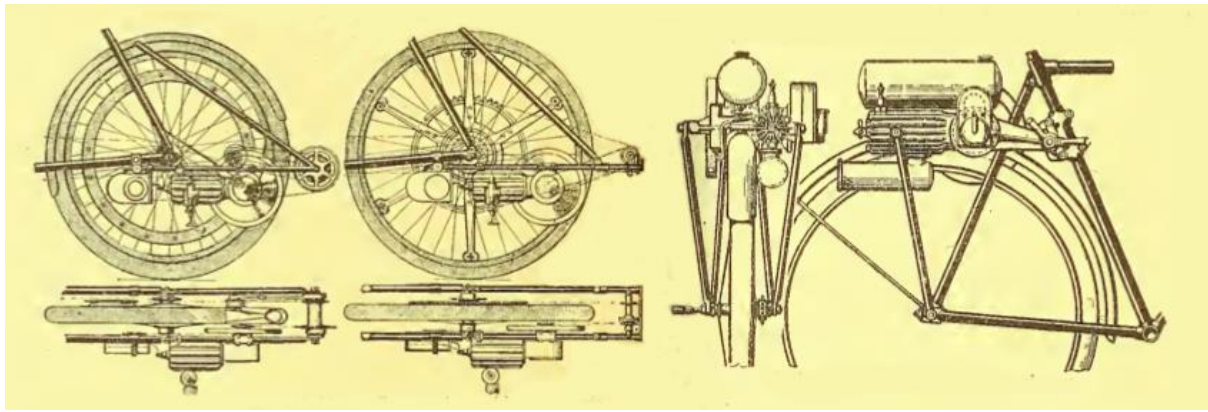
British motor cyclists and cyclists would vote in favour of the rear wheel—an opinion with which anyone who has ridden a bicycle with a heavily-loaded carrier in front of the steering head will agree. However, this is not quite a parallel case, as the faults made apparent in riding a carrier bicycle are due more to the height of the weight than actual avoirdupois. In a motor wheel like the Dayton the weight is kept as low as possible, and some of it is actually below the wheel centre. Nevertheless one’s imagination runs riot when one thinks of greasy roads and steering by the wheel that is under power. The first thing that strikes the cyclist when considering a machine of this description is the

apparent unequal distribution of weight. The engine is on the side of the wheel, and those who have carried a weight on a rear carrier know that steering is affected if the weight is unequally distributed. In the Merkel machine, however, the flywheel is on the opposite side of the cycle wheel, and, even if it is not of the same weight as the engine, a little calculating of leverages will bring about an approximately equal distribution of the weight's effect upon steering. Personally, I think an auxiliary attachment on the lines of the Zephyr will make a strong appeal. In this case, however, the tubes and wheels of the bicycle are called upon to carry an additional load, but, if the bicycle has a specification similar to that of a carrier cycle, the frame will stand up to the strain, as it cannot be so much as some of the loads with which the butcher's boy overloads his machine when he



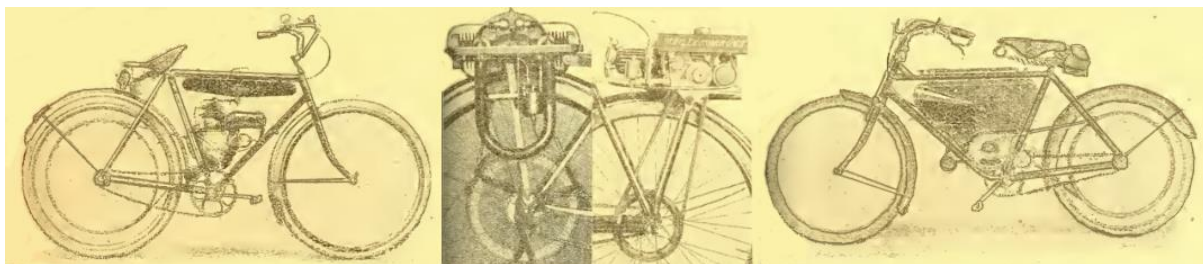
From the left: "A miniature auxiliary engine, embodying a rotary sleeve valve. A motorised bicycle with a 57x63mm (161cc) Dayton two-stroke engine; a machine fitted with this engine did remarkably well in the last ACU six days trials. The NSU lightweight, a 1907 motorised bicycle of neat design."

carries the carcass of a sheep on the front and a confrere on the 'step'. The JES auxiliary attachment is the next step, but, although an ordinary bicycle provides the main elements of the machine, it straightaway becomes a motor cycle, and one can quite understand that the owner of such a machine would next invest in a motor cycle proper. In the majority of cases the motorised bicycle will never be much more than a stepping stone between all-pedal power and all-petrol power. Most riders, once having experienced the pleasures of a self-propelled machine, will be content no longer to assist the engine up hills, neither will ten to fifteen miles an hour—the present idea of their maximum requirements—satisfy them. Above these speeds a stronger frame, larger



Two British patented designs for auxiliary motors. Left: The Anderson design “is carried on a frame which is attached to the back forks of the bicycle and supported by diagonal members in tension”; alternative designs incorporated a friction roller on the inner face of a dummy belt rim or a chain. Right: The Lee-Gulnness-Smith two-stroke motor attachment drove the bicycle via a roller which bore on the rear tyre.

tyres, and a spring fork are necessary, and the only class of machine to meet these requirements is a motor cycle of the orthodox type. Hence the next step is the small lightweight with an engine of 170 to 200cc capacity and two-speed gear box. The motorised bicycle has received the attention of manufacturers in all motor manufacturing countries. The Motosacoche is one of the best known of the earlier designs, and probably was a little before its time. The idea of making the attachment entirely self-contained, and the provision made for protecting the rider from oil and grease, are distinctly good. The NSU machine was neat, but the engine was somewhat on the large side for use in an ordinary bicycle frame. It will be observed that designers have tried all positions for the engine. The American Okay follows closely the lines of the very early Werner in the position of the power unit from the front wheel, while the design, providing the little engine, attached to the underside of the front down tube, will commend itself to those who wish to provide also for the fair sex. Taken generally, however, I think the rear carrier position will be found to be the best for all-round purposes, as here it is well out of the way of mud thrown up by the front wheel, and can be adapted equally well to a lady's or gentleman's machine. As regards the type of engine, the two-stroke appears to offer the great advantages of cheapness and simplicity combined with low weight for power. The latest American design has a flat-twin two-stroke engine, which should cost no more to make than a single-cylinder four-stroke. To the expert motor cyclist perhaps the motorised bicycle appears more or less of a toy but, provided it is well-designed and made, and sold at a reasonable price, there is no reason why it should not be a great recruiting medium for more serious, motor cycling. Apart from this, however, undoubtedly it would fill a niche of its own as a utility machine, and cater for a class to whom the heavier machines would not appeal.”



From the left: "The cycle motor, an American auxiliary attachment; the power unit is a small two-stroke engine. The latest American attachment embodying a flat-twin two-stroke engine. A British auxiliary unit, the Simplex, employing a two-stroke engine and belt drive. The Motosacoche engine set of 1907, designed as a complete unit to fit in the frame of a bicycle."

"NEARLY EVERY SIDECAR outfit seen during the past week-end was seriously overloaded, three up being quite the usual thing; but a Harley outfit, going well, with five on board (three adults, two children, and luggage), was the limit."

"'ENGLISH OILFIELDS LTD' is the name of a company recently formed, with a capital of £300,000 [£12m] to exploit an area of Norfolk, near to the Wash, for shale oil. Investigations have warranted the enterprise, and, we are informed, oil of a high quality and easily extractable has been found by means of an experimental plant erected some time ago. "

"A WINDSCREEN ON A MOTOR CYCLE is not altogether out of the range of practicability. We have seen a design recently which should be quite serviceable. It was designed by a lady."

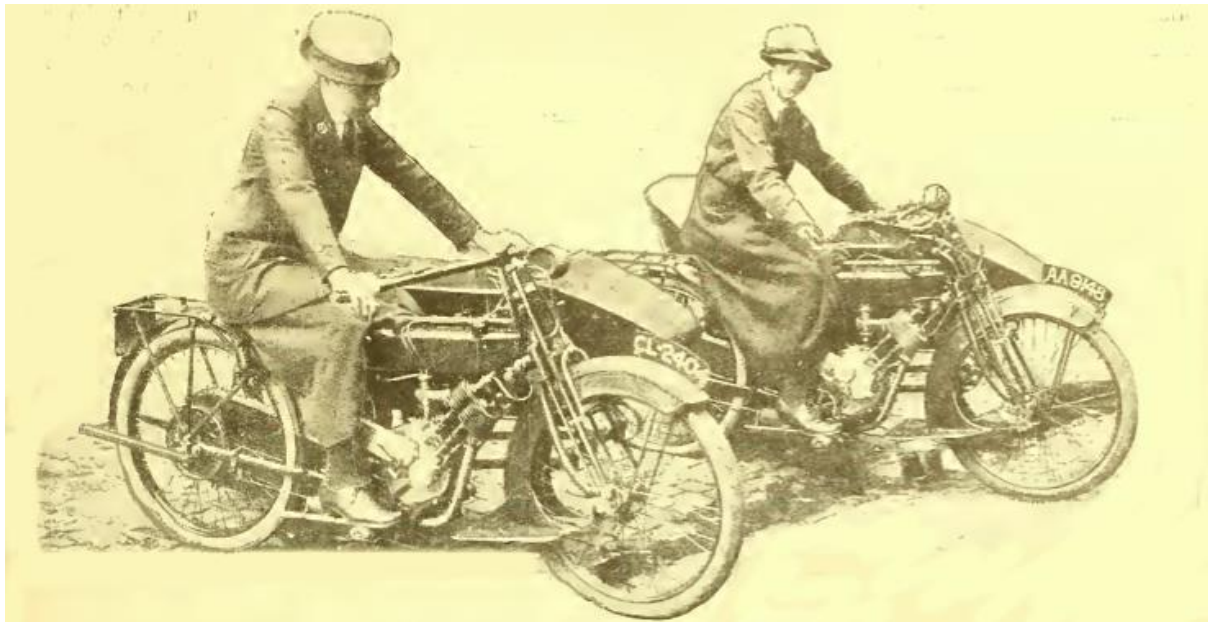
"THIS VERY AFTERNOON as ever was," Ixion reported, "I heard some of the ripest feminine swears ever, heard out of range of a canal bank from a girl motor cyclist whose machine was stalling at the take-off with a sooted plug or some other internal ailment. The puir wee lassie was trving to push-start between 3cwt and 4cwt. This explains why motor cycling is still a young man's game. The aeroplane, in due course, will father the 50lb baby two-stroke; and all the slim flappers and decrepit old Methuselahs Will he habitual motor cyclists. May I live to see it."

"CONSIDERABLE INTEREST BEEN EVINCED in the recently-introduced Raleigh motor bicycle, and after the war it should become extremely popular as soon as it becomes known and the company are able to deliver to customers. One of the oldest members of the Raleigh Co is Mr HH Monks, now general manager, who claims to have ridden one of the first motor bicycles brought over to this country. It was a 1¼hp Werner, and was one of the first two machines Messrs Werner Freres built about 1901. This was the old front-driven pattern, and from it the first Raleigh bicycle was evolved by Col GP Mills, who was at one time the holder of the Land's End to John o' Groat's motor bicycle record, and at that time was with the Raleigh Cycle Co. It was front-driven after the pattern of the Werner, and Mr Monks drove one of these machines for many thousands of miles,

excepting when he was not mending the small round hide belt which was then used. One of the features of this engine was the small exhaust pipe, which projected from the side, and at night it glowed like a red lamp, causing considerable interest to those who met it on the road.”

“THE FRENCH ARMY EMPLOYS a very large number of BSA motor cycles, as anyone who has visited Paris during recent times is aware. Not only are these machines employed in the regions of security behind the lines, but they operate everywhere along the French front from Flanders to the mountains of the Vosges. Generally they are employed with sidecarriers, and often over the most abominable roads.”

THE ARMY AND RAF EMPLOYED women despatch riders; the Senior Service was not going to be left behind: “The gallant girl motor cyclists in navy blue (they wear a uniform as nearly like that of blue-jackets as feminine garments will permit)...They are all skilful mechanics, have installed a small but well-equipped workshop in a former harness room in the mews, and recently look down one of the motor cycle engines, cleaned it of carbon deposit, ground in the valves, reassembled it, and made an excellent job of the overhaul. Few people would have realised previous to the war that women would have done this kind of work...At present the motor cycles used are P&Ms, but in future they will be Sunbeams and Douglasses.”



“Two ‘Wrens’ with their 3½hp Phelon & Moore sidecar machines, the same as used by the RAF.”

“CERTAIN WORKPEOPLE OF MESSRS DOUGLAS Bros, Bristol, recently followed the lead of their Coventry brethren; in other words, they went on strike. We, however, have yet to hear that any Coventry workers have followed the lead given to them by the Bristol brethren—these latter afterwards returned to work and apologised for having gone on strike.”

“THERE ARE PLENTY OF SOUND, reliable schools, officially appointed by the Royal Automobile Club, which undertake the teaching of motor car driving, but, as we have received several enquiries of late concerning schools which undertake the teaching of motoi cycle driving, there appears to be an undoubted demand for tuition of this nature. Candidates, both men and women, for the motor cycle branches of the Services would undoubtedly benefit by taking a course of instruction.”

“WHATEVER IS THE MATTER?” Ixion wondered. “For months past nobody has attacked me with a vituperation-werfer in our Correspondence columns, or written coldly and judiciously to prove that my notions can only have emanated from some drug-sodden inmate of Colney Hatch. Is my right hand losing its cunning, or is it merely that all my watchful critics are Hun-strafting in Flanders? My love to them, and hearty anticipations of many another dust-up when it is all over.”

NOT FOR THE FIRST TIME, IXION was thinking way ahead of his time...”The gas enthusiasts talked very big for a few months, and informed us that gas was going to oust petrol. Then gas was controlled, and as soon as the choice between ‘gas or nothing?’ was transformed into ‘gas or petrol?’ the unsightly top-hamper practically disappeared from our roads. I am quite aware that gas has never yet been tried out under fair conditions, ie, with engines, carburetters, and tanks designed for the purpose in the light of special research, and I fully admit that a car or cycle properly designed for gas propulsion might yet prove to be a very pleasant possession, and economical withal. But the sudden and almost complete collapse of the gas bags shows that certain people were making a wholly premature attempt to stampede us into abandoning a fuel which the British Isles may yet produce in considerable quantities. Now that a commercial company has been authorised to test gas fuel in high-compression cylinders, we may get some reliable data. Previous experiments amount to little more than a desperate resource in a war emergency.”

IXION WAS ALSO PONDERING four-pot bikes: “My earliest recollection of the type is of a pair—a Durkopp and an FN, I think—entered in a six days End-to-end run about 1905. The entire entry watched them with mixed feelings. When rain was about, and our 5/8in belts were shrieking over the slippery pulleys, we coveted the shaft drive of the fours. On odd occasions they would rev past us with all four cylinders working, and a note which put our bang-bang singles to the blush. But on the average we saw them stalled by the roadside, with their drivers labouring feverishly, and as one sparking plug and pair of valves gave us plenty to think about in those days, none of us were converted to the fours. The Durkopp was driven by an alien of sorts, who could hardly speak a word of English; his observer, AC Wright, must have found the triple role of interpreter, auxiliary motor on certain hills, and advising engineer quite exhausting. Some years later I bought an aoiv FN which reminded me of a lovely woman who has been spoilt: it could be so nice, but it usually elected to be perfectly horrid. Then I sampled a Henderson, and

completely lost my heart to it. When you slammed its throttle open it gave you a sort of 'left behind' feeling in the small of your back, like a scout aeroplane does when a jump is put on it. It started if you stroked its back mudguard, and made very short work of several fancied speedsters it was matched against. Since then I have sampled more than one experimental four, and I must say they are going to be popular."



"Mr HH Monks, who has just completed eighteen years in the service of the Raleigh Cycle Co. He was one of the earliest motor cyclists in the kingdom."

SPEED WOBBLING HAS EVOLVED into tankslappers; they are still with us. Ixion's description of this phenomenon is a must-read, not least for the whimsical beauty of his prose: "Will some highbrow amid the freemasonry of our readers expound the theory of 'speed-man's wobble' for the benefit of such practical ignorami (or should it be 'muses'?) as myself? For the benefit of novices I proceed to expound what speedman's wobble is, appealing to the educated section of the public to expound how it comes. Briefly, having concluded your novitiate, you dispose at a heavy loss of the 1907 dud which some genial veteran unloaded on you as a special favour, and buy a brand-new mount of unquestionable ginger. You seek a straight and lonely road, and proceed to

‘whack her up’. She responds. You try to be a man. You choke down the rising terror which besets you. You assure yourself that the articulations of your vertebrae are not really coming unstuck. By an immense effort of will you curb that itching forefinger from pulling the throttle back. The speedometer needle stealthily caresses the ‘60’. Your pulse beats are almost imperceptibly dropping a few revs and ceasing to drum in your ears like a Gotha on the roof, when the front wheel commences a superb imitation of a hare dodging a push bicycle at night by acetylene light. Instead of rolling straight forward, it commences what WG Aston would describe as a ‘cycloidal’ path, I believe. In other words, it in-scribes on the road a track which looks like an enormous valve spring pulled out by locomotives attached to each end. The axes or foci or mantles, or whatever they call them begin to expand: in other words, the swaying and lurching and looping and rolling get steadily worse. A corner approaches, and you realise that whether you can take it or not depends on whether the bicycle is side-looping to the left or right at the crucial moment. In either case, it is obvious that any further lateral increase in the thingumbob means stubbing your face against the high stone walls to either side. These problems are never settled, because the machine suddenly lies down on its side and slides, while you excoriate the road with your nose and ear forty yards further on. There are a few people who have survived speed-man’s wobble, and the proof is that every man who has done ‘sixty’ on the road has been in it. (NB—Many men who talk glibly of ‘sixty’ have never clocked more than forty-five.) Yea, and some of these survivors have noses, and also chins and ears. I myself have been in many of these wobbles, and each time the dread is greater. The golden rule is never to let the machine start: it starts at various speeds with various types of fork and frame, though no machine is immune from it. Firm steering prevents its genesis. The fool who likes to risk his neck at railway and aeroplane speeds must practically lock his steering by jamming his wrists inwards and getting a purchase with his feet against the side plates of the boot-bar, and kinking his back rigid like the stays behind the buffers at a railway terminus. If he thus converts his anatomy into a series of triangulated girders for bracing the steering, speedman’s wobble will seldom come his way. Sooner or later he will grow careless, and try to scratch the back of his neck whilst leaning out round a corner at fifty: then the wobble will be on him in an instant. To apply the brakes is foolish. To slam the throttle shut is *felo de se*. To lift the valve is worse. A gradual reduction of speed will flatten out the sinuous path which the track must assume where a sudden and marked speed reduction would invite the machine to lie down. Gradually control will be regained, but, ugh! it is a nasty experience. Yes, gentlemen, your suspicions are quite correct. My latest 10hp gave me a peach the other day, and I traded it off just before bed-time for a Baby Levis and four sugar coupons.”

“AN ICE CREAM VENDOR daily visits on his BSA and sidecarrier a factory engaged on work of national importance in the South of England, and does a large trade in ‘hokey-

pokey' with the
munition workers."

"WHEN THE CAT'S AWAY: There was a notably increased number of civilian motor cycles and cars in use in South London on Friday and Saturday, probably due to the police being on strike. One of the police pickets made his journeys on a motor cycle."
[The strike was inspired by the sacking of a PC for membership of the National Union of Police and Prison Officers, founded in 1913, and a desperately needed pay rise. The cops won].

"AT BROMLEY POLICE COURT Mr Frederick Simms, director of the Simms Motor Units, Ltd, was summoned for unlawful use of a petrol substitute on a car at Bromley on August 15th. According to police evidence, the car was being used for shopping purposes. On behalf of defendant, it was said he was the oldest motorist in England, and had driven a car since 1895 without a single conviction. In co-operation with a German he invented the magneto. In 1916 he was granted a special permit, allowing him to use the car for experimental purposes. Owing to the shortage of mica they were now trying to find substitutes for magneto, plug, and other insulators. They were also testing a new condenser and distributor. The magistrates decided there was not sufficient evidence for conviction, and dismissed the summons."



"A Harley-Davidson outfit used by a truly enthusiastic sidecarrist."

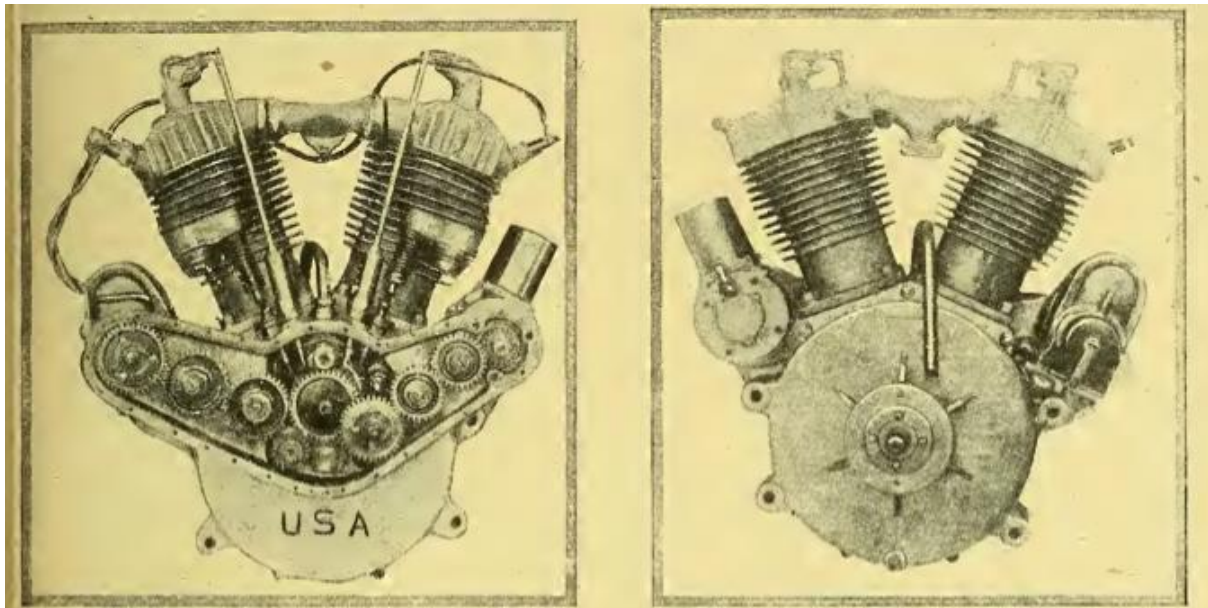
"A NEW FUEL: A small car is being driven about Zurich on a new fuel known as Dissous-gas, the outcome of two inventions protected by Swiss patents. The gas is generated in a specially designed producer, so it rather looks as if its use on a motor bicycle would be difficult. Experiments with Dissous-gas are being made in other countries."

“AN AMERICAN ARMY MOTOR CYCLIST gives his views on British motor cycles: ‘Joe and I,’ he writes, ‘do anywhere from ten to eighteen hours a day riding, so you see we would be equal for almost anything. Joe is riding a sidecar now and I a solo. Believe me, these little old one-lungers are the goods. I can’t begin to tell you the work they will do. They take a sidecar and passenger almost anywhere on high gear. Talking about gear, that is only a figure of speech for them. They have two engine drive chains running to a counter-shaft. By a system of wedges, a band is tightened or loosened, and in that way the rear chain gets its power. Some contraption, believe me. If some of our boys had them home they would go nuts. I saw a Sunbeam the other day—a 7hp twin—with all drive chains running in oil. Some front fork, too. It sure is a pleasure to look at. We have a 5hp twin, three-speed Indian, with racing bars: in fact, all the machines here have short wide bars. Also we have a Rover, 4hp single, three-speed. It is the nearest thing to our machines that I have seen. Have inspected the Triumph and Douglas, and they would give us a hold on our laurels any time.”

“EARLY LAST MONTH an important trade conference was held by American motor cycle makers, and a deputation went to Washington, where they were able to convince the US Government that motor cycles are no longer toys and pleasure vehicles...the US War Industries Board announces that motor cycles are recognised by the Government as practical and necessary vehicles of transportation.”

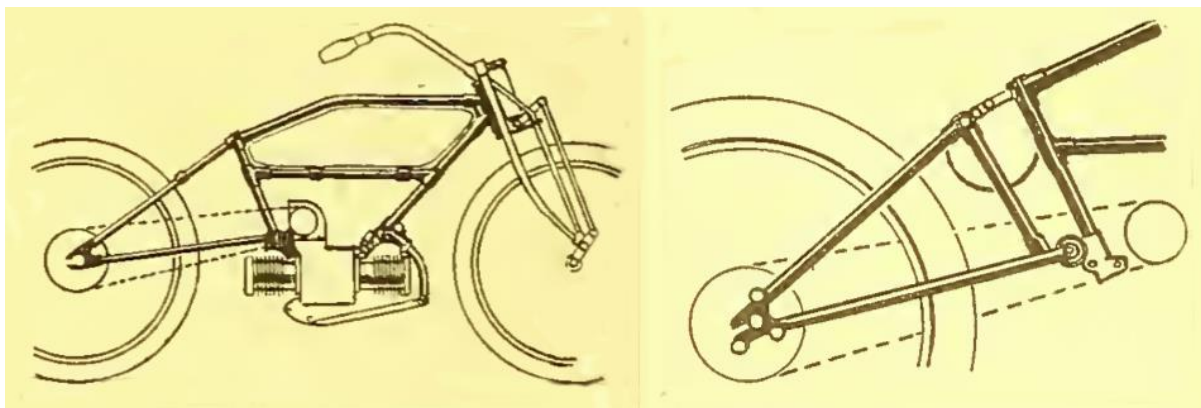
“THE INTRODUCTION OF THE AMERICAN standard motor cycle engine raises the important question whether for Army purposes it is better to use one type of motor cycle or several. The British DRs (RE Signals) use two makes, Triumph and Douglas, the nominal hps being 4 and 2¾, and the capacities 550 and 350cc. The former is provided with a handle-bar controlled clutch—a very real advantage—and a three-speed gear...Both these machines have done excellent work and both have their admirers. The more powerful machine is naturally the greater favourite, owing to its greater speed and power to plough through very heavy mud, but there are many occasions when the lighter weight of the Douglas gives it a great advantage, and renders it pleasanter and safer to ride...Then, again, we find that the RFC have always favoured the P&M, and many of these machines, with sidecars attached and lady drivers in the seats, are to be seen carrying Flying Corps officers from place to place with the most unfailing regularity. In Africa and elsewhere the BSA has rendered a good account of itself, and more than one twin-cylinder machine, notably the Clyno and Enfield, has been fitted with machine guns or used for ambulance purposes. Time will show whether the American standard engine can take the place of all these various types. It ought to be able to plough its way at a slow pace through the deepest of mud without becoming unduly hot. But many occasions must of necessity arise when the riders will wish themselves the possessors of lighter and handier mounts. Power is wanted at all times and still more extreme reliability, but sometimes handiness will be more valuable than power...British experience suggests that variety is, on the whole, desirable, for conditions vary very

materially on the different fronts and at different times of the year...It has been rather amusing to hear the opinions passed on the new 'Liberty' motor cycle by despatch riders who happen to be WD Douglas enthusiasts. They do not depreciate the machine in the slightest, but they are emphatic in their assertion that *they* would not like to be confined to a big twin for all classes of work."



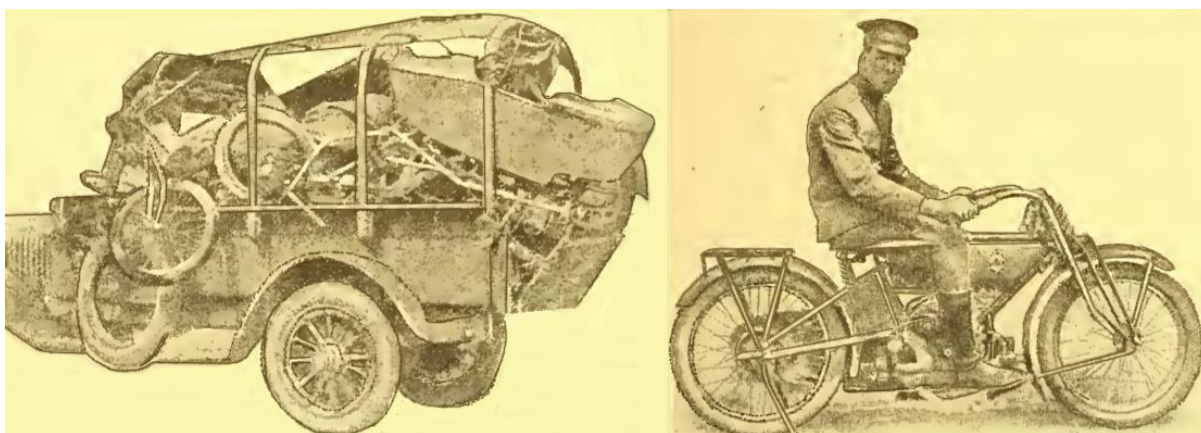
The US army specified a standard engine for its military motor cycles and called it the Liberty. Inevitably it was a big twin, in this case with a capacity of 997cc and, as 90% were expected to pull sidecars, a compression ratio of just 3.5:1. The crankcase incorporated mounting platforms for the magneto and a dynamo (which was designed to be disconnected during the day to reduce wear).

"ALTHOUGH THE INDIAN LIGHT TWIN was not the first flat twin motor cycle to be produced in the United States, it was the first to be made by an American concern of international repute. There appears no doubt that it has been a success, and, but for the war, quite a number of them would have been seen in this country. At the time this model was announced it was anticipated, at least by British motor cyclists, that other American makers would follow suit. The American patent files now reveal that the Harley-Davidson concern is interested in a flat twin proposition, which includes a gear box integral with the crank case. No particulars are available as to the bore and stroke of the engine, but apparently these are to be a little larger than those of the Indian, and from the illustration given here one may think that the new Harley, if it fructifies, will approximate more nearly to the British 3½hp size. A separate patent has been granted for a spring frame, which obviously was designed for the flat twin machine; but, here again, the details are meagre in the extreme. However, the bare fact that a firm holding the position of the Harley-Davidson Motor Co has designed a flat twin with a spring frame is of more than usual interest."



“A Harley-Davidson flat twin with integral gear box. The Harley-Davidson spring frame.”

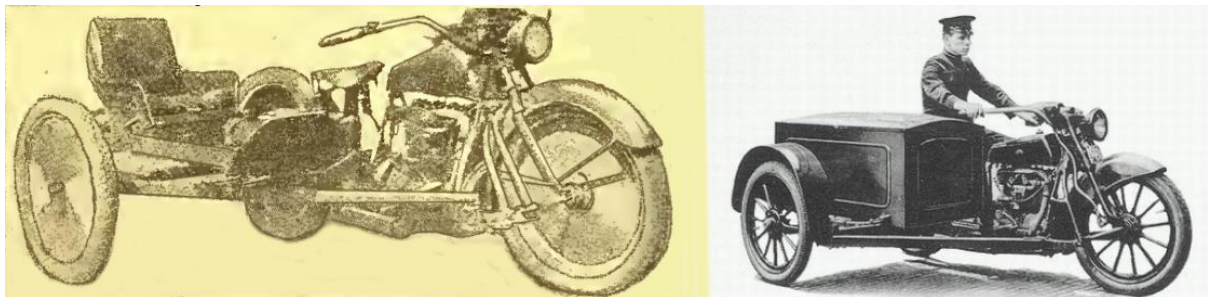
THE US GOVERNMENT SET UP AN ALL-STAR TEAM to design a standard military motor cycle to be known as the Liberty. It was led by WS Harley and included Indian chief Oscar Hedstrom, CB Franklin, also from Indian (and runner up in the 1911 Senior TT when Indians scored their famous hat-trick) and FW Schwinn from Excelsior-Henderson (his dad, Ignaz, having bought Excelsior in 1912 and Henderson in 1917). However, towards the end of 1918 when it must have been obvious that the war wasn't going to last much longer, the government changed its mind, disbanded the committee and staged a trial to establish which existing models were best suited for the Western Front (a phrase which must have confused some Yanks, who associated their existing western front with the Indian wars which had nothing to do with Springfield Indians). The trial, let it be said, was “of such an arduous nature that at the end of it the practical motor cycle experts agreed that there was no motor cycle made which would come through the same ordeal without breakage...the machines which took part were two Powerplus Indians, two Harley-Davidsons, two Excelsiors, and two Hendersons, all with sidecar...while in the lightweight class are mentioned for the first time two Harley-



Left: That military trial must have been a doozy—the remains of some of the contenders were hauled away on a US army ambulance. Right: The lightweight flat-twin Harley was evaluated for duty on the Western Front.

Davidson flat twins weighing under 250lb each. Among the other machines may be mentioned the Militor, which was previously known as the Militaire...The Militor was built

under the direction of officers of the Ordnance Department.” The US bike mag *Motor Cycling and Bicycling* described the Militor thus: “It carried a lightweight sidecar, and the outfit weighed about 900lb, looking like a cross between a German tank and a straw-burning locomotive. It was, in fact, not a motor cycle and sidecar, but a young truck with one disc wheel knocked off. It was claimed by the backers of this machine that it could push over a brick wall, climb anything that did not lean backwards, and easily carry a 500lb load at top speed under any conditions. Equipped with disc wheels and 3½in tyres, its capacity as a combined truck and road-roller was shown by riding it slowly up against a stone slab, 8in. thick and about 18in wide by 3ft in length, stood up on an edge, and after pushing it over it climbed the stone and went on. Well, on the road test Lt Chappie, the rider, was so thoroughly shaken and addled by the bumping of his short wheelbased heavily-laden mount, that he must have been glad to call it a day’s work when the engine succumbed by over-heating.” Other contenders were taking home in a truck; the Americans ordered lots more Harleys and Indians and got on with the war.



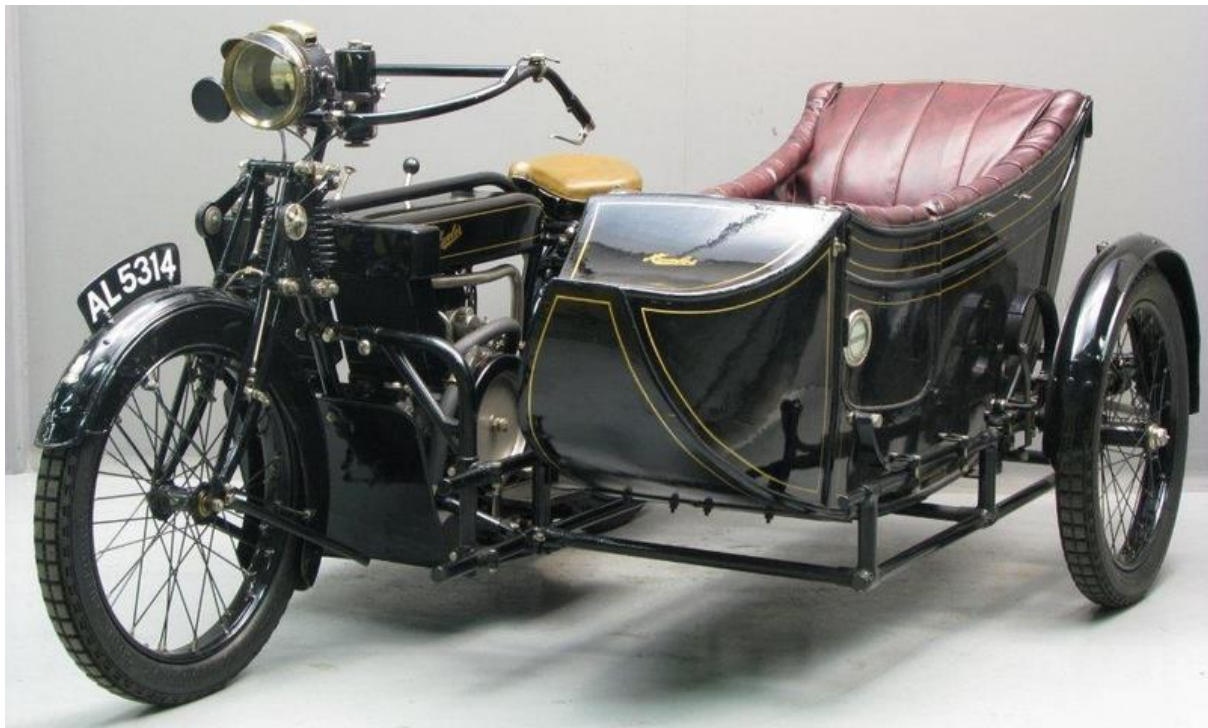
Left: No wonder the Militor combo was built like a truck; the Militor Corporation’s main stock in trade was a 4×4 truck designed to tow 155mm howitzers. After the war the Militor earned its keep as a tradesman’s outfit with a 500lb payload and a slogan: “The most economical carrier of passengers and merchandise in the world.”

“THE NEW REGULATION reducing the age of drivers for motor vehicles, ‘on proof of competency to drive’, does not affect the age limit of motor cycle drivers, which is still fourteen years.”

“IT IS GOOD TO LEARN that various representatives of the industry are meeting Government representatives to consider schemes to prevent a post-bellum flooding of the markets with motor cycles of all descriptions and in all conditions, to the detriment of all concerned.”

“TWO THOUSAND MILES ON A HUMBER FLAT TWIN: I am of the opinion that the water-cooled machine is miles ahead of the air-cooled for heavy work. This particular machine was taken over from the works in June^ 1917, fitted with a heavy Millford sidecar, and covered 2,000 miles before the petrol shortage compelled the owner to lay it up...about 600 miles was expended, on a holiday tour in Wales, and the balance was made up of week-end runs from the centre of England to the sea coast in search of fresh air after strenuous days and nights on munition work. For the first 400 miles the

machine was not pressed in any way, and was liberally oiled and well looked after, but for the remainder of the distance it was not spared at all...a distance of 300 miles on a Sunday being quite common for the out and home run...After a gruelling day on the Welsh hills and mountain roads its vim and vigour are just as pronounced as when it was first purchased...Although a fairly heavy machine—320lb—its wear on tyres seems exceptionally light, and its petrol and oil consumption quite reasonable. The water-cooling is not in any way clumsy nor exceptionally heavy, and has given no trouble during the 2,000 miles. The radiator never showed the slightest tendency to boil, even on very long hills in the hottest weather. The weight of water is 12½lb...Petrol consumption worked out at 51mpg, and oil at 800mpg. During a Welsh tour four tins of petrol, were carried on the rear of the sidecar body; th total luggage carried was 161lb plus passenger and driver turning the scale at 25 stone—altogether a good load, though not an unreasonable one for a 750cc engine...on a very fine stretch of road between Shrewsbury and Oswestry the throttle was opened out, and 46mph was easily obtained with this load, and, judging by the behaviour of the engine, could easily have been kept up...we made a clean ascent of Harley Hill, the speed never falling below 23mph, and only second gear was used throughout. This hill has a certified maximum gradient of 1 in 6½ and is over half a mile in length...no tuning of the engine had been attempted since it left the works. The only adjustments made were taking up the rear chain once and fitting



The water-cooled Humber flat twin displayed a commendable appetite for hard work.

a new washer to the inlet pipe joint of the rear cylinder—surely a good record for 2,000 miles' running...The removable rear wheel proved a great boon when the puncture fiend troubled, as it can be easily removed in forty seconds and replaced as quickly...The engine when dismantled showed no sign of wear at all...The gear box was quiet in use,

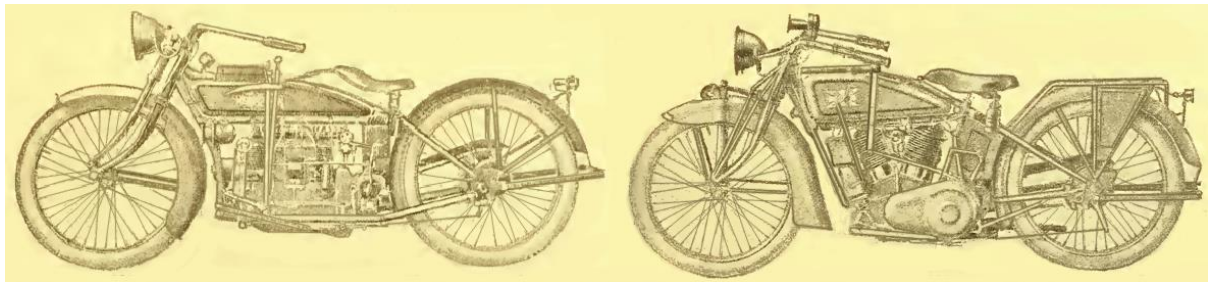
and when dismantled showed no defects or wear, and the dogs on the clutch wheel were quite sharp and perfect. The clutch is of the dry plate variety, with the rings faced with 'Ferodo' and was as good as new. It gave no trouble at all, and was not even adjusted until it was dismantled. The chains showed practically no sign of wear. The CAV magneto, which is the first British magneto the writer has used, gave no trouble, and he has nothing but praise for it...The metal guard fitted under the engine is a most efficient device, extending as it does from just below the bottom of the radiator, right along under the engine as far as the rear mudguard, and while of ample size is never in the way, nor does it look clumsy...The arrangement of the starting handle on the end of the half-time shaft ensured easy starting at all times...The front rim brake—like all of its kind—is useless and only answers one purpose, 'a bobby dodger'. The front mudguard is too long in front, making the removable front wheel difficult to get away after it is detached from the forks...The chain case could be much improved where it fits over the rear chain wheel. In order to enable the inner side of the case to clear the bolt heads the side of the (highly effective) shock absorber, the inside hole in the case is made large, with the result that road dust blows into the case and gets over the rear chain."

"OWING TO THE INCREASE in the number of motor cars in Kanagawa, Japan, the police authorities have recently decided to purchase three motor cycles so that the policemen may keep a strict watch on motorists exceeding the speed limit. It is an extraordinary thing that while motor cycles are so extensively used by the police in the United States, and also to a lesser extent in Japan, they are not employed by the police in this country." In Tokyo six bright red police motor cycles hit the streets.

"IN PROVIDENCE, RHODE ISLAND a youth of seventeen years of age was fined £3 for allowing a passenger to interfere with the control of a motor cycle. The police stated that the driver had allowed a girl to sit on his machine between him and the handle-bars. The judge stated that a person so situated could not properly control a motor cycle in an emergency. As it happened there was an accident, the machine hitting a passenger alighting from a tramcar."

THE FOUR-POT, THREE-SPEED unit-construction henderson grew from 960 to 1,120cc. Other innovations included inner (expanding) and outer (contracting) band brakes on the rear wheel. "Either brake is sufficient to lock the wheel under ordinary conditions. The brakes are independently operated or may both be applied at once if desired." Hendersons were now being built in the same factory as Excelsiors, which might be why the QD rear wheel Excelsior had offered for three years appeared on the latest Henderson. Like the Excelsior twin, Henderson's four was available with electric lights. "In the Excelsior, as in practically all other American machines, except the Henderson, the electric generator takes the place of the magneto, while in the Henderson the magneto is used on both models." Excelsior had previously offered a "military type fork" as an option; for the 1919 season it would come as standard: "It is trussed to carry the

great strains to which the fork is subjected in sidecar work particularly...A feature that will appeal to those owners of big twins who are not of sufficient physical development to wrestle with the average kick starter is the automatic compression control. This operates by slightly opening the exhaust valves at the beginning of the downward thrust of the kick starter, and allowing them to close when sufficient momentum has been attained to carry the engine over compression. In addition to this, the starter sprocket is fitted with a spring cushioning device, which ensures easy and perfect engagement of the starter pinion. In order to obtain a compact assembly, the engine is brought up close under the tank. In order, therefore, to facilitate easy removal of the cylinders, the tank can be swung aside out of the way."



Left: "The 1919 model Henderson; the cubical capacity is 1,120cc, being an increase of 160cc on last year's model. The 1919 model Excelsior, complete with electrical equipment.

"MOTOR CYCLING IN ITS broadest sense is something more than owning and using a motor cycle. It is almost a cult, of which the actual possession of a machine does not necessarily form a part."

ELMER BERGSTROM RODE A LIGHTWEIGHT 254cc flat twin Indian round the Tacoma Speedway, Washington, USA for 21hr 42min at an average 51mph to cover 1,106 miles. The bike was bog standard; apart from a flat tyre it performed faultlessly. Bergstrom set 24-hour and 1,000-mile records.

"HERE," SAYS IXION, "IS OUR tame electrician's forecast of the post-war electrical specification for motor cycles: (a) A dynamo generator, driven by the engine, which will provide the ignition current when the engine is once started, and will furnish a surplus current for keeping the accumulator up to the mark. (b) An accumulator which will supply the ignition current for starting the engine; the motive powder for setting the engine going, thus eliminating the kick-starter; and the current for the lamps. I suppose a charging dynamo will solve the old problem of attaining accumulator reliability on solo mounts. But I have uneasy dreams of a triple short-circuit in the above outfit on a wet night umpteen miles from home."

"The USA War Department is ordering from 5,000 to 6,000 motor cycles, which are to be split up between the Indian and Harley-Davidson factories, whose machines are well

known in this country. .An American journal states that the USA Government want 15,000 motor cycles, but cannot yet get them.”



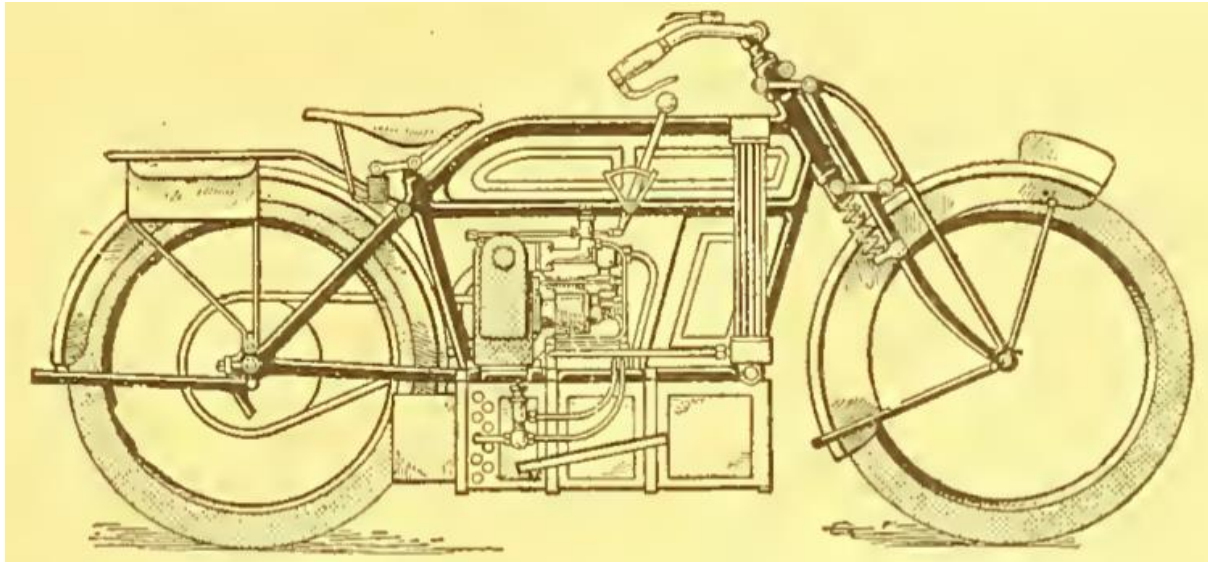
Harleys poured out of Milwaukee and into service.

“SIR,—I SHOULD LIKE TO HEAR the opinions of other readers on the following: “Are detachable, heads a success?” I ride a 3½hp single which has a detachable head, and find that it is impossible to keep a tight joint! I may state that I use a new copper asbestos washer each time. Personally I would much rather put up with a little more trouble required with a one-piece casting. After a fast run I find the fins of my cylinder covered with burnt oil. Another disadvantage is that each time the head is removed it requires the adjustment of valve tappets.

NON-DETACHABLE, Leicester.”

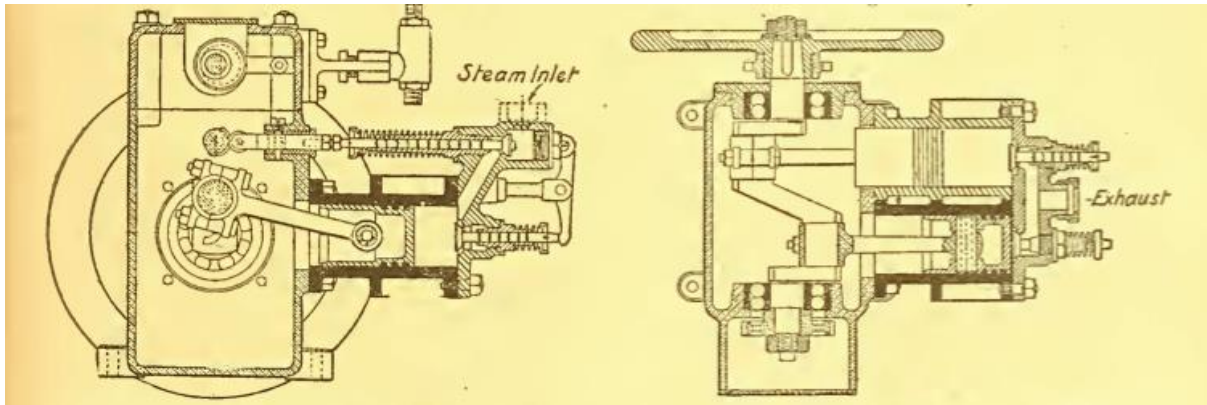
COULD A STEAM-POWERED MOTOR CYCLE compete on equal erms with petrol? A designer named Hindle clearly thought so., as the man from *The Motor Cycle* reported: “There are no revolutionary principles involved, the main problem being to get a compact assembly in -the standard motor cycle frame. The boiler is of the ‘flash’ type, which provides lightness, rapidity of action, safety under all conditions, and simplicity of construction. This particular boiler consists of about 80ft of solid drawn steel tubing arranged in three concentric coils—the outer ones acting as feed water heaters. The intermediate coil acts as a super-heater. The whole makes a very compact assembly with the burner, the outside measurement being 22x8x8in. The fuel (paraffin) supply tank is placed in front of the engine, and contains a small cylindrical pressure tank which is fed by a fuel pump on the engine. This enables the main tank to be replenished without extinguishing the burner. The tank placed in the usual position is for water, and a small portion of the rear end is retained for lubricating oil. The capacities are arranged

to give a run of about 100 miles. The engine has two cylinders of 38mm bore, and a two-throw



Mr Hindle's steamer promised to match the convenience and ease of use of internal combustion.

180° crankshaft which gives a stroke of 44.5mm. The working pressure is 500psi, and the valves are of the ordinary poppet type, the exhaust valves being in the overhead position. A steam condenser is provided in the position usually occupied by the radiator on water-cooled petrol machines. The power expected would be at least 4bhp. As regards starting up from cold, this will occupy about four minutes, and much less when warm. Means are provided by which the burner is regulated automatically or by hand if desired. A comparison of the controls with those of a petrol motor cycle will be interesting. Of course, a gear box is unnecessary. Petrol controls: Throttle, air, magneto, clutch, gears and exhaust. Steam controls: Water by-pass, burner, throttle, variable cut-off and pressure relief valve. The steam throttle is only used for starting and stopping. Comparatively, therefore, the steam cycle shows up favourably as regards weight, bulk, ease of control, economy, and speed. The torque should be equal to that of a four-cylinder, four-stroke petrol engine. Chain drive is proposed, and this should prove most efficient, no shock absorber being necessary."



From left: "Vertical section, showing valve system, and fuel pump with driving eccentric. Horizontal section, showing flywheel and crankshaft assembly and detachable cylinder head."

WHAT FOLLOWS IS AN EDITORIAL COMMENT by the editor of *The Motor Cycle*. It is long, but well worth reading. Why? Because it seems to be the wellspring of The Motor Cycle's decades-long campaign for the 'Everyman' motor cycle: and the Everyman, I would suggest, represented the blueprint of the modern motor cycle. "Prior to 1914 we occasionally received enquiries from elderly persons of modest means and aristocratic lineage about motor cycles intended as local runabouts—between house, club, golf links, railway station, and the like. The enquirers generally allowed, for a fair price range, but stipulated for (a) freedom from vibration, (b) easy starting, (c) low weight, and (d) an entire absence of petty troubles. Needless to say, © was the only point in which the trade could really fill their specification. For such enquirers, 'comfort' implies a first-class saddle, and a frame sprung fore and aft; 'easy starting' connotes either a self-starter or certain firing after a 3ft push, and that without the exercise of trained intelligence over the preliminaries; and the 'absence of petty troubles' indicates a lubrication system which will neither soot the plug nor seize the big end if the driver forgets to turn on a tap. We failed to supply a machine of this type. In consequence of our failure thousands of retired soldiers, ex-civil servants, Anglo-Indians, and younger sons either employed taxis or squeezed out the necessary capital and bought light cars. The war will hit these men hard. Their incomes are rigid, and their expenses are fluid—in the wrong direction. They will be driven to swallow their old contempt for the motor cycle, and the first firm who offers them a really sound lightweight at a rational price should do good business. It is probable that similar reasoning applies to the design of post-war motor cycles in general. In the old days the average motor cyclist prided himself on being a bit of a mechanic. He appreciated, rather than resented, the fact that the exercise of brains was necessary if he was to get the best out of his machine—one might almost have said, to keep it running at all: for after all, many pre-war lubrication systems were so crude that if the driver forgot the lubrication system for fifteen minutes, the engine ran risk of seizure. The increased cost of living is going to force into our ranks many men who regard a mechanic as an essentially vulgar person: who would not

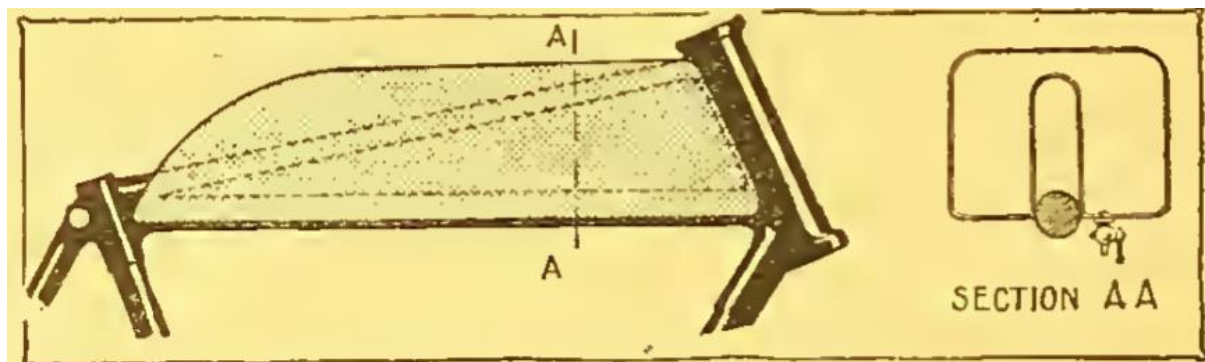
dream of repairing punctures with their own hands, and who expect a vehicle to be entirely automatic. They have plenty of brains; and if they cared to employ them, they could get as good results out of the pre-war type of motor cycle as anybody else but a temperamental antipathy prevents them from trying to comprehend a machine. For them motor cycling is purely utilitarian. They cannot regard it as a hobby, and the trade takes it for granted that motor cycling is par excellence a hobby. In this dilemma the industry can choose between two policies. It can either say to itself, 'These potential purchasers must be educated. A mechanic is not essentially vulgar. Wilful helplessness of this character is unpardonable. We will continue to design machines which are not foolproof until these supercilious gentry understand that they must take a technical interest in their mounts!' Or, alternatively, the trade can—if it so wishes—evolve a type of machine which can be driven and maintained by the sort of person who uses a coal hammer on wood screws, and overwinds his watch once every week. It is likely that the latter policy is the more desirable on general grounds, and that automatic carburation, automatic lubrication (minus even a two-way tap), and an interlinked clutch and gear control represent a sound policy. It is, moreover, essential that such a mount as we have in mind should be a really clean machine, that is to say, it should be well mudguarded, and more important still capable of retaining the oil which is put into its crank case."

AS ANY ENTHUSIAST WILL TELL YOU flat tanks were superseded by 'saddle' tanks in the late 1920s; flick forward to 1927 in this timeline and you'll find it described as the year of the flat tank. Bear that in mind as you read this letter to the Blue 'Un:

"Sir,—Ixion refers to scooping oil and dust from between the top tube and the tank as one of the worries for which our sons will respect us. He is quite right in putting this defect among the others which are sure to be ousted in course of time, and he will not have to wait fifteen years, or even as many months, for this particular evil to be overcome. The absence of this dirt-harbours crevice is one of the many good points of the saddle tank which, it will be remembered, drops into position astride the frame instead of being pushed sideways in between the top tube and tank tube. But the saddle tank has more important merits than its cleanliness. For example, the arched partition along the middle of this tank reduces the lateral surging and swaying of the petrol, and so contributes to steady running. Again, the one side of the tank forms a natural reserve compartment to the other; for, while the petrol level descends equally in both sides for the greater part of the time (the partition tapering off to a very low height at the rear), towards the end some of the liquid gets pocketed, and the drying up of the side fitted with the tap gives the usual warning. Then, simply leaning the machine over empties the pocket into the business side, and enables the rider to carry on to the next village. There the flush top may help again, as, in the absence of the obstructive top tube, the fillers can be made so large as to extend the full width of the tank if desired, and replenishment can be accomplished in record time. Lastly, the saddle tank can have a large capacity without excessive width, and allows of the top line of the machine

following any contour that may be desired. In fact, the saddle tank was devised, not for its own sake, but to secure these last two points in connection with the triangulated top frame. In that design the space is too shallow to admit a large capacity tank, and to some eyes the sloping top tube is not as attractive as the 'curved back' one. But the saddle tank gets over both those points, and is being clearly recognised as the consummation of the inclined top tube idea. Messrs AJ Stevens and Co have definitely adopted it, and, very broadmindedly realising that what is good for motor cycles and motor cycling as a whole is good for them, do not wish to keep it to themselves, but are wishful that other makers should take it up, too—the more the better.

DOUGLAS LEECHMAN."



The saddle tank referred to by Douglas Leechman, a decade before saddles became ubiquitous.

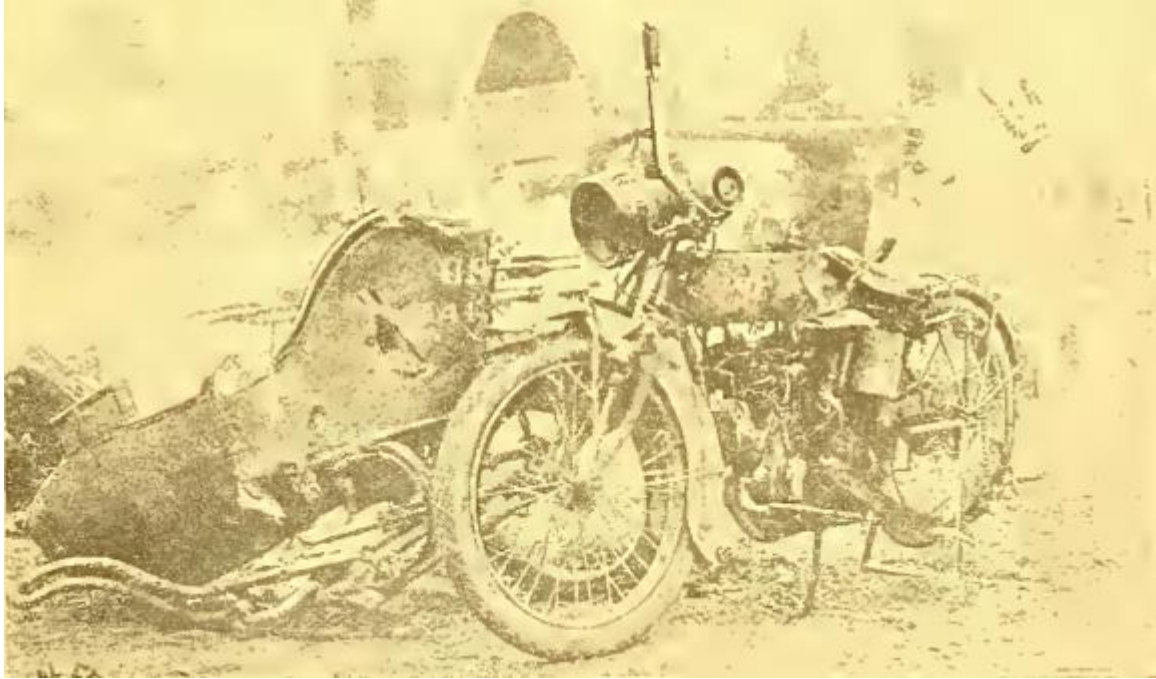
"PETROL FOR A QMAAC DRIVER: A certain Queen Mary's Army Auxiliary Corps driver attached to the ASG appears to have reasonable cause to complain about present day restrictions and how they are applied. After working for over ninety hours per week for ten months in France, this lady obtained ten days' leave, of which five were spent travelling. She applied to HQ Irish Command for a petrol permit, which was granted, but on applying to the Area Petrol Controller for a driving permit, this was refused on the ground that she was neither officer nor man of HM Forces. We see no reasonable ground for this distinction." The war had been won, but for women the battle for equality would continue.

T FIRTH & SONS OF SHEFFIELD were producing 'Stainless Steel' (still, as the capital letters imply, a trade name; not yet a generic).

ROLLS ROYCE BEGAN TO USE phenol formaldehyde, a prehistoric plastic, in its car interiors and boasted about this exotic material.

SUNBEAM FOUNDER JOHN MARSTON'S SON Roland died, aged 45; the distraught John died the day after his son's funeral. With death duties to pay, John's oldest son Charles, who was busy expanding the Villiers works, was forced to sell John Marston Ltd to Explosive Trades, a consortium of munitions manufacturers which had done well out of the war. It was soon taken over by Nobel Industries, later to be renamed ICI.

“WE HAVE LATELY SEEN many motor cycles and cars, which have been lying aside for want of petrol, in a dilapidated condition. Ordinary care seldom seems to be taken with tyres and plating. That month’s leave our soldiers are to get on discharge can be profitably spent in the garage.”



“An

Indian and sidecar after rough treatment by a Boche shell. A photograph taken on the Western Front.”



In case

you can't make out the note on this pic: "The first Yank and Harley Davidson to enter Germany 12 November 2918." The first day of peace.

“THE MESSAGE OF PEACE: The end of the war, if the signing of the the armistice turns out, as, is probable, really to be the end, has come with dramatic suddenness. ‘The tumult and the shouting dies, The captains and the kings depart’...the armistice will, we trust, be the beginning of a new era of prosperity for this country and the motor cycle trade. The motor cycle has played a wonderful part in the war, and England’s supremacy in this type of self-propelled vehicle has stood her in good stead, thanks, we venture to say, largely to this journal, which from the year of its foundation—1903—has never ceased to give publicity to and thus to encourage, motor cycles for army use, as our older readers will remember. Now we are faced with the problem of peace, to restore motor cycling to its former degree of prosperity. First and foremost such fuel as is available must be released. This means the abolition of the Motor Spirit Restriction Order, which would at once allow motor spirit to be used for any purpose...petrol prices must come down quickly to a figure approaching that of pre-war times...petrol has a serious rival in benzole, and more benzole is available now than in 1914, while there is hope of home-produced petrol, and alcohol must not be forgotten. When the Hun was hard put to it for petrol in 1915 owing to the Russians seizing the Galician oil wells, he used alcohol and benzole mixed, with quite good results. Let us follow his example and run our motor cycles on ‘Alcobenz’, half the price of petrol, nearly as good, and, unlike benzole, unfreezable at ordinary temperatures. Alcohol per se is poor stuff. It might be drunk by moral degenerates, hence the restrictions on its sale, and it cannot be used in ordinary engines, but mix it with benzole and we would guarantee that the very worst of habitual drunkards would not be tempted to imbibe the result. We are next faced with the problem of the new model, and the question of when the new post-war types will be available, and there is also the great problem of discarded Army mounts to be solved. There is a huge market for moderate-priced machines, and should a first-class make, rebuilt and guaranteed for, say, two months, be made available, it would help to meet the enormous demand for motor cycles which we anticipate, and would give the makers time to develop their later types. The organisations should ‘go easy’ as regards competitions. There is no harm in a few sporting contests run for pure fun and enjoyment, such as hill-climbs, a few track races, and unimportant minor club road trials, but serious tests, such as the TT races and six days reliability trials, should be withheld until the manufactories have settled down.”

OF COURSE IXION HAD HIS SAY: “We shall agree that as soon as a few drops of petrol become available or joy-riding, the men with chevrons ought to get the first issue. Above all, men with wound stripes should be assured a juice ration. Then thousands of men will be demobilised slowly, and will be called upon to stay Overseas ‘tidying up’. Presumably such men will receive a small consolation packet in the shape of a good long leave in Blighty at the first opportunity. We should like them to have a few cans at their disposal during that leave: and by the time they come home for keeps, we will do

our best to have some pukka post-war jiggers ready, and also some good sporting competitions in which to try them out."



An Appreciation.

— To those Readers who have taken an Active Part in the Great War. —

YOU have served in every section of our vast military machine which was organised and perfected to destroy others of its kind. In the motoring and aviation sections you have helped to build for our fraternity a reputation second to none among the classes who have won the war. Before conscription made every man a soldier, you flocked to the Colours; we enlisted over ten thousand of you ourselves for those special corps for which you were so fitted to form the nucleus. That you have made good is now history—your exploits have been enlogised by your Commanders-in-chief and the press of the nations.

You have upheld the best traditions of British pluck, and you have shown the world how true sportsmen play the game—even in war, while those of you who have smelt more petrol than powder have worked in the A.S.C., M.T., in a manner well deserving of all praise.

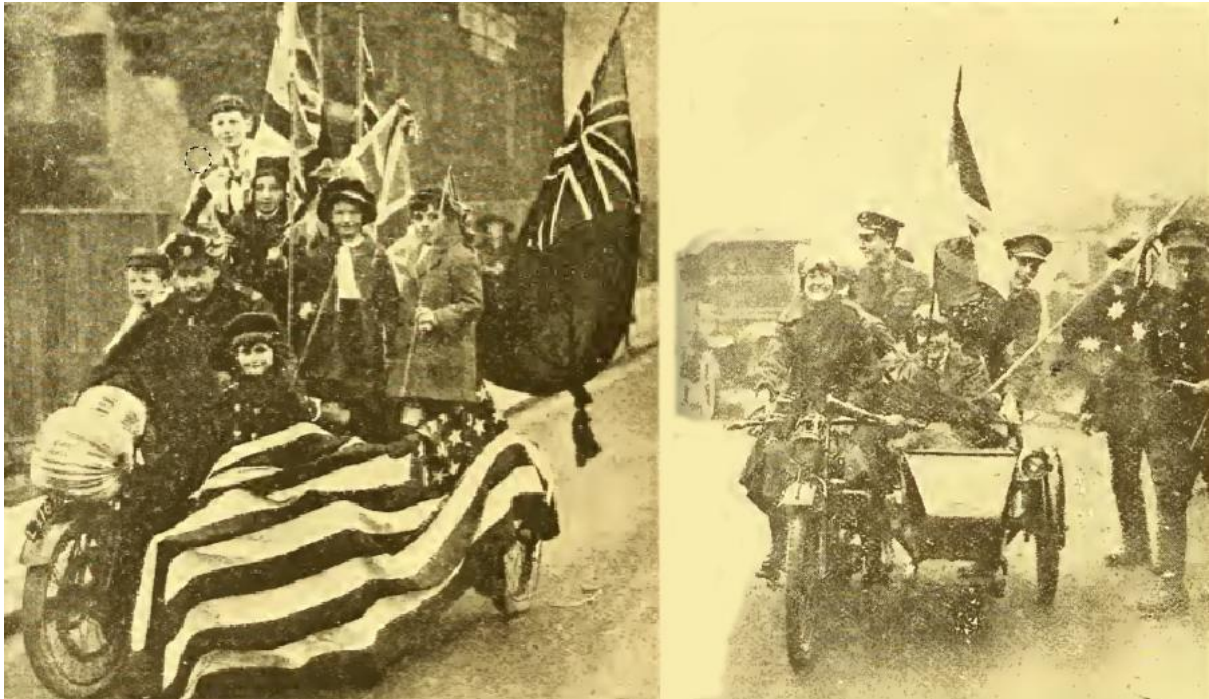
Gentlemen, on behalf of all motor cyclists, we thank you for what you have done and for the splendid way you have done it.

PEACE!---WHAT OF THE FUTURE?

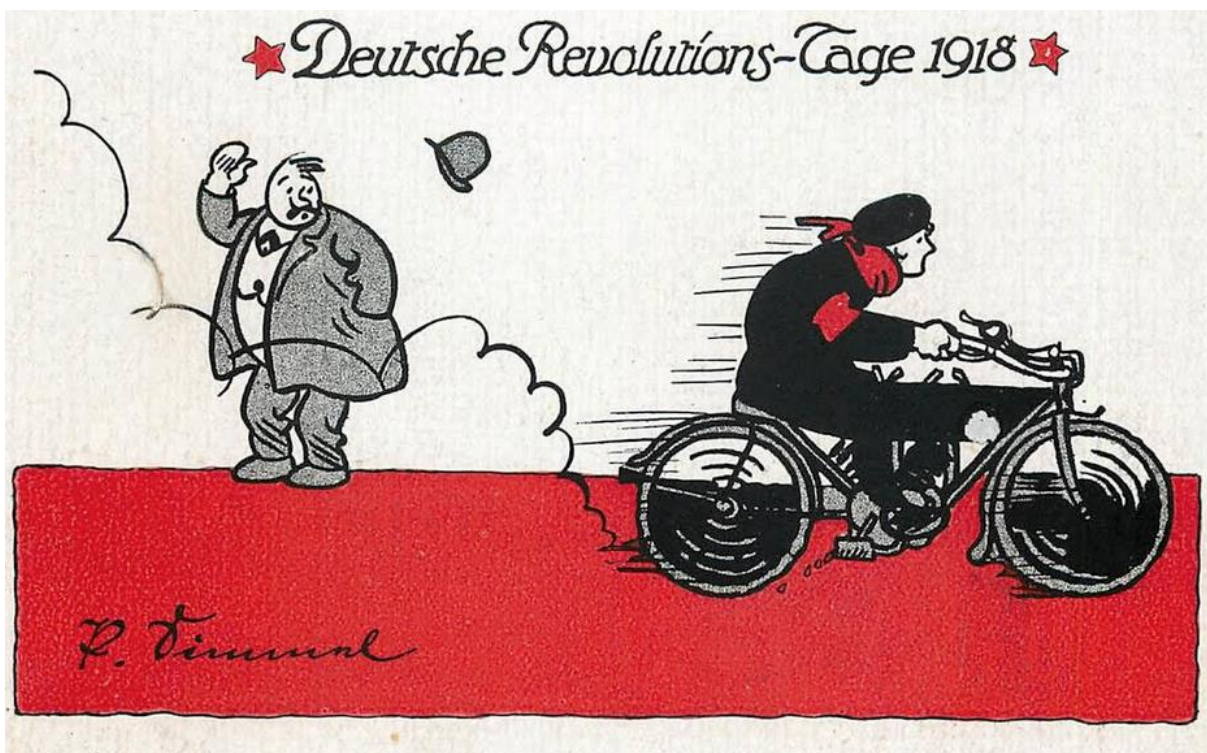
The Motor Cycle and its Place in the New World of Democracy.

"THE CESSATION OF HOSTILITIES marks the opening of a new era for motoring. It will be the third epoch of the motor cycle, and that this epoch will be greater than is generally thought there can be no doubt, when the new conditions which will prevail for the next decade or so are viewed in their full perspective. Pre-magneto days are clearly divided from the time that followed when ignition troubles were swept away. Hence the first epoch, important as it was, did not leave a very clear mark outside the world of motor

mechanics. The second epoch, a period when machines had arrived at a high standard of reliability, was something in the nature of a boom, which was cut short by those madmen in Germany who thought to enslave the world. Thus in times to come we shall refer to these different periods as 'Pre-magneto days', 'Pre-war days', and 'Since the war'. One could almost say that the history of the motor cycle's part in the war forms an epoch in itself; but rather has it been the culminating test of the machines of the second epoch—the chapter in history when the motor cycle has been proved to the non-riding public to be more than the plaything and pleasure machine of the select few. That it made good is now known to the whole world, and while, to the mechanic, the motor cycle is still in the transient stage, the public no longer has this impression. It has passed the stage of experiment—a heavy bicycle with an engine in it—to the man in the street: it has taken its proper place as a machine which can be relied upon to do certain service under the most adverse conditions, service which could not be undertaken by any other type of machine. Had the war broken out a few years before 1914, say before countershaft gears and the present-day efficient engines had been developed by the Tourist Trophy Races and ACU Trials, the horse as a despatch rider's mount would probably have retained its place in the composition of the armies...Thus the war has done much to popularise motor cycles. Thousands of men in mud-bespattered khaki have seen them standing up to service which for a six days trial would have been regarded as strenuous. Soon these men will be back in civilian life, and many of them will think seriously of joining the ranks of motor cyclists...The motor cycle hitherto has been connected closely with a certain class of the community—a small section of the large middle class. The section has been widened considerably as a direct outcome of the war. Thousands of the superior working class will enter it. They were potential buyers before the war—but the margin over and above their cost of living was so narrow that they hesitated: waited until prices came down to their level. The war has changed their earning capacity, and they have now money put by which will enable them to purchase machines immediately they are available. From this class alone the possible demand for motor cycles is enormous, while even among 'ordinary' working men the motor cycle has a strong appeal which provides an outlet for second-hand machines greatly in excess of any anticipation justifiable a few years ago. In short, the motor cycle promises to take almost as large a place in the world of wheels as the pedal cycle. It is safe to assume that the motor cycle will become the most popular vehicle in the new world of democracy, which will require reliable and speedy means of getting about its business of rebuilding the countries that have been devastated and of repairing the shaken foundations of those that have not...Truly, it may be said that the third epoch of the motor cycle will be great—beyond the imagination of riders before the war—and far-reaching in its influence upon the peoples of the whole civilised world."



“A scene on Armistice Day: A heavily loaded Enfield with a youthful burden. Armistice Day: RAF lady motor cyclists put their P&M sidecar to strenuous use.”



The celebrations didn't extend to Germany where the November Revolution has been described as the only successful revolution in an industrialised country before 1989. Within days Germany peacefully transformed itself from a constitutional monarchy to the most progressive republic of the period.

“EX-ARMY MACHINES: A prominent motor cycle manufacturer, who is, unfortunately, not in a position to turn to motor cycle production at once, suggests that he and others

similarly placed would each be glad to take, say, 5,000 of the Army machines and rebuild them for the immediate market, and so remove a hiatus during the period of change-over.

THE DISPOSAL OF ARMY VEHICLES: Several of our readers have written to us asking as to what will happen to the numerous Army motor cycles which will be no longer needed by the military. At the present moment we are unable to give any definite reply. So far as the RAF is concerned, it is not anticipated that any motor cycles will be available. With regard to the ASC motor cycles, and practically all other motor vehicles used by the Army, these will be dealt with by the Ministry of Supply.”

“HEAVY FUEL: WE CAME ACROSS ‘Archie’ Cocks, the Clyno exponent, last week. He was running his sidecar machine on a mixture of tar oil and paraffin by means, vaporiser of his own design.”

“FOR THE YEAR ENDED AUGUST 31ST, 1918, the Hendee Co was awarded US Government contracts for 13,000 machines of the total of 22,500 ordered from all concerns, while 1918-19 contracts were for 45,000, of which 27,000 were to be Indian, 75% of which were to be fitted with sidecars. With the signing of the Armistice, the makers were released from the bulk of the contracts, which permits them to divert their supplies into civil channels.”

BY THE END OF THE GREAT WAR Douglas had made some 70,000 motorcycles for military use.

“SHORTLY AFTER THE CAPTURE of Courtrai the headquarters (we hear) found that despatch riders were being consistently late on schedule. The whole squad was paraded before the General to ascertain the reason for the delays. The excuse was that they had been captured in turn by the young women of the town and each had been soundly kissed. ‘They just insist,’ explained the DR, ‘on stopping your motor cycle, and all want to kiss you at one time.’”

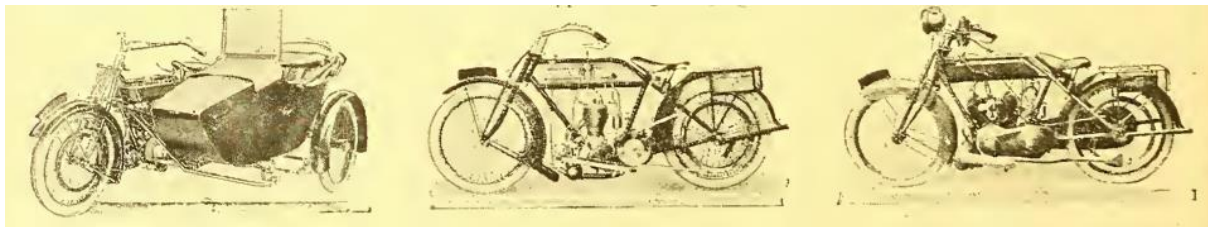
“A WISE MAN: HE SAYS, ‘The motor cycle is a great builder of good cheer; it drives away trouble, doubt, and gloom, and makes one glad to be alive, glad to hold up one’s end, and glad to do one’s greatest for the good of mankind.’”

PEACE MODELS.

A Brief Announcement of the Future Policy of Forty-eight Manufacturers and a List of Models likely to be Available in the Near Future.

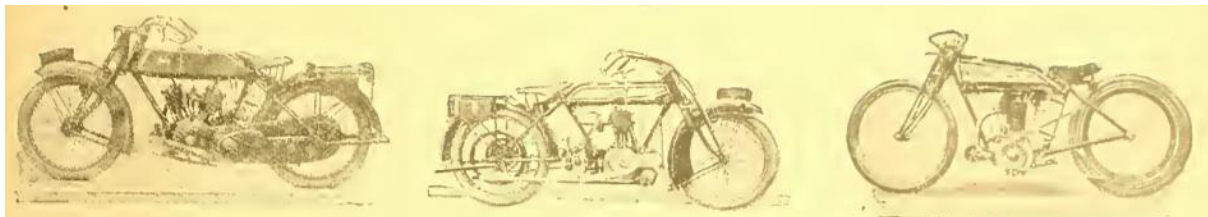
WITHIN DAYS OF THE ARMISTICE the men from *The Motor Cycle* set out to summarise the peacetime plans of the industry. “Our representatives visited the majority of makers in London, Coventry, Birmingham, and Manchester, while the long distance telephone placed us in direct touch with the Nottingham and Yorkshire firms. Obviously, it is impossible to give details here of these conversations with the captains of industry to

whom we look for our future motor cycles. Summarised, however, we do not think it will take long for the bulk of the trade to resume manufacture of their normal productions.” For enthusiasts starved of new models the following list must have made for exciting reading...**ABC:** Arrangements for mass production of a new model are already completed. **Abingdon:** The 6-7hp King Dick and its sister 3½hp models will be the first of the peace models. **AJS:** AJ Stevens will market their 6hp military model. The lightweight machine, winner of the Junior TT, will be abandoned to devote manufacturing facilities to the sidecar machine. **Alldays and Onions:** The company will concentrate exclusively on the Allon single-cylinder two-stroke. **Ariel:** The well-known 3½hp and 5-6hp Ariels will be the immediate post-war models of Messrs Components, Ltd. **Bradbury:** A new lightweight four-stroke model, together with the well-known 554cc single and 750cc twin will be marketed. **Brough:** A new 3½hp flat twin embodying several innovations will be the sole model of the Nottingham concern. **BSA:** The 4½hp single, which has done such good service with the French Army and as the motor light infantry in the African campaign, will be the immediate post-war BSA. **Calthorpe:** The range will be practically the same as before the restrictions compelled a cessation of activities. This includes a 4hp



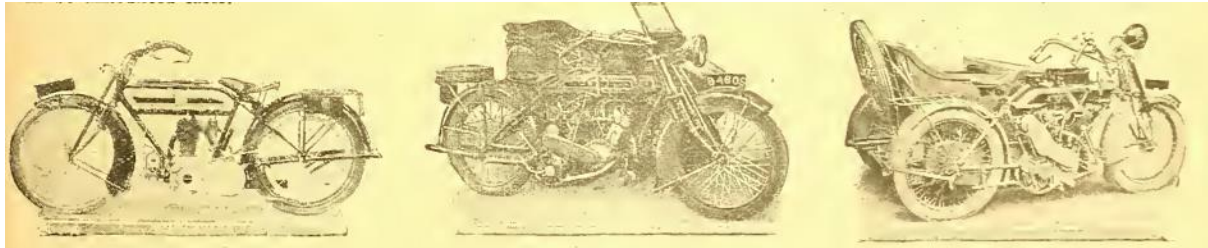
twin, 2¼hp two stroke, and 2½hp four-stroke lightweight. **Campion:** An 8hp twin, 3½hp single, and 2½hp two-stroke will make up the range for 1919. **Chater-Lea:** The 8hp No 7 combination will be offered as soon as possible. **Clyno:** The post-war model will be an entirely new proposition embodying 28x3in wheels, a spring frame, sprung sidecar wheel, and an 8hp twin engine with detachable cylinder heads. **Dot:** This Manchester concern will concentrate chiefly upon a new lightweight with a 3hp engine and the Dot duplex frame. **Douglas:** The Douglas policy will be announced shortly. **Excelsior:** Messrs Bayliss, Thomas & Co will market four types—a lightweight with JAP 2½hp four-stroke engine, another with a two-stroke unit, and 5-6hp and 8hp twins. **Harley-Davidson:** The importation prohibition makes the English policy of the H-D firm uncertain...The Harley Co has a new flat twin model. **Hazlewood:** The ‘Big H’ firm anticipates that it will be able to resume manufacture of motor cycles in the new year. **Hobart:** This Coventry firm will market a light-weight with spring frame. **Humber:** it is not expected that more than one model will be marketed when the company is able to devote more time to civil business; in all probability this will be the 3½hp air-cooled flat twin. **Indian:** The arrival of new Indian models when the embargo is removed is patiently awaited by those British motor cyclists who prefer the American type of machine. For the present the energies of the Hendee Co will be devoted to the production of the 7hp

Powerplus for sidecar work and the little flat twin for solo riding. **Ivy:** A restart should be possible early in the new year, when Messrs Newman will re-introduce their two-stroke model which has proved so satisfactory. **James:** This firm is in a position to deliver its several models at once. The range includes 500cc twin, 4¼hp 'big single', 2¼hp two-stroke, and 5-6hp twin. **Levis:** A limited number of the Levis two-stroke will be available almost immediately. **LMC:** Two modified war-time models with 4¼hp single and 6-7hp twin engines will be marketed early in the new year. These will have countershaft gear and chain-cum-belt transmission. A new spring frame model will be ready soon. **Matchless:** The WO 8hp combination is the post-war Matchless, and for the time being Messrs Collier will concentrate upon this model. **Morgan:** The GP and De Luxe tourist models, as supplied on special permits during 1918, will be the immediate post-war machines of the Malvern firm. **New Hudson:** This firm has been so closely connected with the production of



munitions that its motor cycle policy is not yet decided. **New Imperial:** A new spring-frame machine will be available very shortly. In the meantime this firm will market its war-time models. **Norton:** 'Singles only' is the post-war policy of the 'long-stroke' firm. The Big Four with chain transmission and countershaft gear, the 500cc single gear speed model, and a 3½hp tourist will be catalogued. **NUT:** A vigorous policy has been decided by the Newcastle firm, particulars of which will be announced later. **OK:** Messrs Humphries and Dawes will make one model only, and all units and fittings will be built in its own factory. **Overseas:** The first models will be a 3½hp single and a 6-7hp twin. A new model with spring frame is promised early in the new year. **P&M:** A new passenger machine of interesting design will be ready shortly. **Radco:** Messrs EA Radnall and Co, the makers of the Radco motor cycle, will be ready in the early spring with a new model, which will include several improvements. **Raleigh:** The makers of the old Raleighette and the well-known Raleigh bicycle will market a 6hp flat twin with spring frame. **Rex:** A new big twin with spring frame may be expected in the spring. **Rover:** The new 6hp twin model probably will be the leading line but the 3½hp with countershaft gear undoubtedly will be marketed. **Royal Enfield:** The post-war range will include most of the pre-war types, including the 6hp combination (8hp engine optional), 3hp twin, and two-stroke lightweights. **Royal Ruby:** The big twin outfit designed for the Russian Government, but conforming in many ways to the ideals of the British and Colonial rider, will be the post-war model of this concern. It is fitted with an 8hp JAP engine. **Rudge:** The TT model—the winner of the last TT race—will be included in the range for 1919. In addition the 3½hp

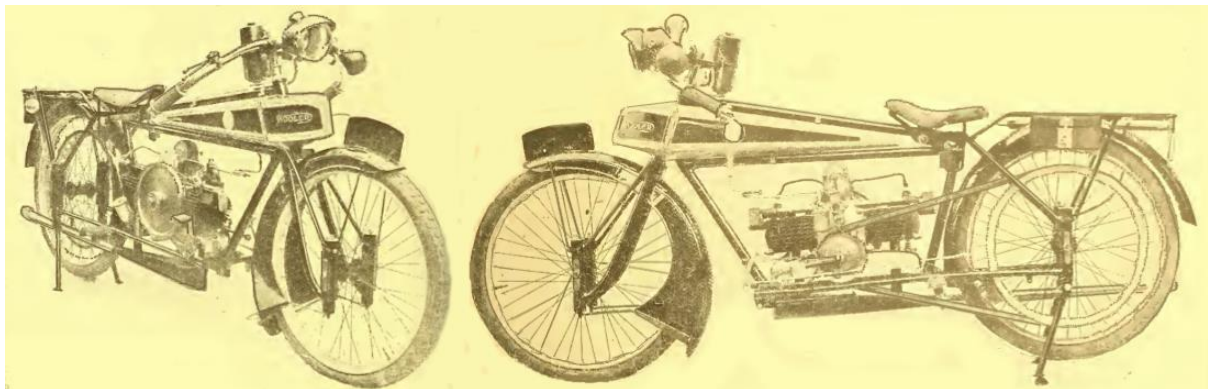
tourist and the 750cc single, both with the



multi-gear, will be catalogued. **Scott:** Post-war policy undecided. **Sparkbrook:** The sole post-war model will be a Villiers-engined two-stroke lightweight similar to the one marketed in 1914 and 1915. **Sun:** The Sun-Vitesse lightweight with semi-open frame will be the main proposition; several other models will be catalogued. **Sunbeam:** The 3½hp Sunbeam, with minor improvements, is being retained as a post-war model, while the twin model will be the 8hp machine, which has been used with such success as a sidecar ambulance in France. **Triumph:** The 4hp countershaft model, used in such numbers by His Majesty's Forces will be available for the public immediately the Government give the makers permission to accept orders. **Tyler:** The Tyler Apparatus Co are fitting Metro engines exclusively to their 1919 models. Three types will be placed upon the market—the TT, the touring, and the ladies' motor bicycle. **Velocce:** A limited number of the economical model D two-stroke Velocette will be available in a few weeks' time. Early in the new year a new model will be introduced embodying a new frame and a clutch contained in the flywheel. This firm also has a few 3½hp and 2½hp four-stroke models. **Wooler:** This enterprising firm is engaged upon the production of a new type. **Zenith:** Two twin models, with 4-5hp and 8hp engines and the well-known Gradua gear, will be the post-war Zeniths.

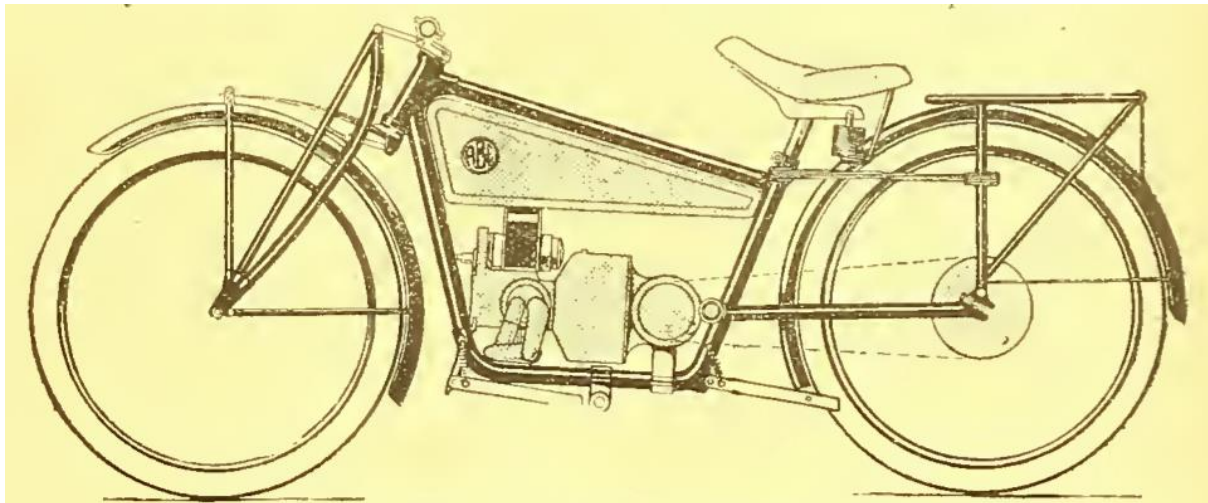
“FULL OF NOVEL AND INGENIOUS ideas, the new 2¾hp flat twin Wooler promises to be an attractive model for the solo rider. It is a remarkably neat design, and the point of accessibility has been fully considered by its designer. Though the frame is very similar to the two-stroke Wooler, the engine is a complete novelty. It is carried in the frame on two transverse lugs and secured by means of two bolts in such a manner that it may be removed bodily without the slightest difficulty—in fact, Mr Wooler has succeeded in allowing any part of the engine to be dismantled solely with the aid of an ordinary set-spanner. Overhead inlet valves are fitted, the rockers being entirely enclosed. On the end of the rocker arm is an adjustable screw, by means of which the tappet rod adjustment can be effected...A streamline silencer is fitted; in fact, in the general design it will be apparent that the idea of streamlining has been by no means neglected...Beneath the crank case is a large sump, in which rather over a quart of oil is carried. At the side of the sump, underneath the timing gear box, is a small pocket, and the only connection between this pocket and the rest of the sump is through a long gauze tube, so that all oil reaching the pocket is adequately filtered...the pedal on the off side of the machine works on a ratchet, and rotates a pinion revolving between two

parallel racks. These are connected to the pulley, so that depressing the pedal not only swings the pulley forward, but also expands it for the purpose of lowering the gear...The petrol tank is very much of the same pattern as that in the previous model, but the front portion is now an auxiliary tank, which is detachable, and carries enough petrol for about twenty miles...The frame is built up entirely, of straight tubes, and is provided with the same system of springing as in the two-stroke model, which consists of supporting the wheel spindles between two coil springs working in tubes brazed on to the fork end, but is 5in shorter, and has a secondary tube below the main dropped top tube. The mudguards are wide and intensely strong, and all nuts attaching them to the frame are outside, so that they can be tightened with a set-spanner...Altogether, the design strikes us as most promising...We congratulate the company in introducing their new model so promptly. The two-stroke Wooler will also be retained, but the engine is being altered slightly to suit the new frame."



"Threequarter view of the new pattern 2 $\frac{3}{4}$ hp Wooler; the engine is 60x60mm=340cc. Carburettor side of the new model."

"AT A LUNCHEON HELD at the Sopwith Aviation Co's works at Kingston-on-Thames it was announced that the ABC motor bicycle would in future be manufactured in quantity by the Sopwith Aviation Co, Ltd." Tommy Sopwith's interest in motor cycling dated back to the 1904 Tricar Trials and while he was at the heart of the burgeoning aviation industry—during the war his workforce has grown to 35,000—but Sopwith had just expanded into new premises had been opened at Ham and, Sopwith explained, this gave the company the idea that they had plenty of room in which to turn out quantities of motor bicycles...they were going to employ all their men and women, and soldiers coming back from Overseas, to manufacture the ABC, made by a company with which his firm has been in connection in the very earliest days at Brooklands, as it was in 1912 that Hawker on a Sopwith machine won the Michelin Endurance prize; and, curiously enough, their latest effort has been made with an ABC engine. Seven years ago they had taken a motto—'Strength with Efficiency'—and with that motto they intended to carry on



“The new ABC solo machine with opposed twin engine placed across the frame and epicyclic three-speed gear in the flywheel.”

in the manufacture of the ABC motor bicycle. He added that he was a strong believer in competitions, and intended to go in largely for various trials. It did not matter whether they won or not, but valuable experience was gained and excellent lessons were learnt. Mr Sopwith spoke about the arrangements which would be made with the ABC Co. Nothing had been decided until the Armistice was signed, when he approached Mr Bradshaw and asked him to turn out an experimental model, Mr Bradshaw said it could be done in three weeks. Mr Sopwith told him he did not believe him, but asked him to go ahead, with the result that the machine was placed on the road in eleven days, and was a well-finished job. In the next few weeks a new model would be ready and proved, and the company would be able to turn out large quantities, say one hundred a week...Mr Bradshaw pointed out that the war was won on technical superiority, wonderful knowledge being gained in the war, and he considered that that superiority was as essential to a reconstructing nation to-day as it had been to a fighting nation yesterday. He pointed out that the motor cyclist was probably the largest road user in the country, and the one most neglected by the technical engineer. He had been given an engine the unbalance of which was a close competitor to a pneumatic riveter, a frame spinning in the manner of a farm cart, a lubricating system which was a combination of pure guess and a good memory—a carburation system which enabled him to transport about half the weight per mile per gallon that other road vehicles could transport, while his protection from the mud was so bad that it necessitated his wearing clothing suitable for a scarecrow...the motor cyclist no longer need exert excessive strength to lift his machine on the stand, as the new machine complete would weigh about 150lb., and its centre of gravity would be but 15in. from the ground. The motor cyclist would fill up with oil on the first of the month and forget the lubrication until the first of the month following...he added that the new engine would be 400cc, and a four-speed gear would be fitted.” Ixion later revealed: “A good yarn is going the rounds anent the new ABC bicycle. The bottom dropped out of the war so abruptly that Mr. Bradshaw—like all other

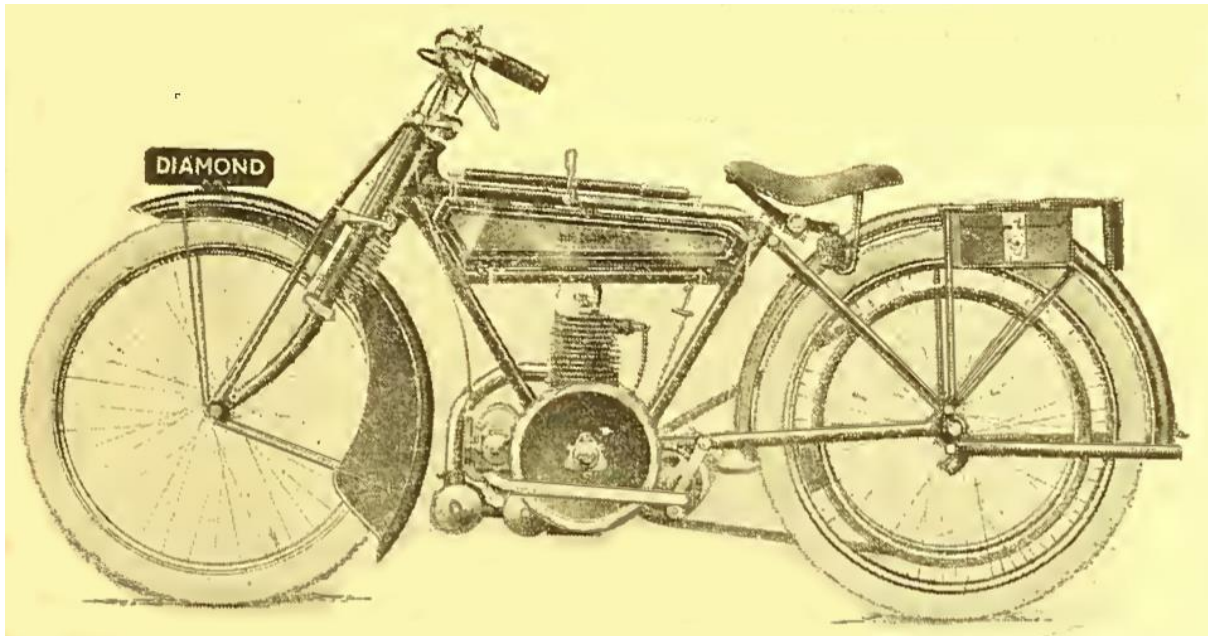
motor engineers—was caught napping. He had his engine ready, for it had been a ‘munition’ for four years past, but his brain had been switched off motor cycle gears, frames, etc, for many a long day. The managing director of the firm who had previously covenanted to manufacture the post-war ABC bicycles came round at 60mph: ‘How soon can you have the drawings of that bicycle ready?’ Mr. Bradshaw defined the necessary preliminary



Sopwith certainly wasn't short of space to devote to producing the ABC.

test; when these were agreed upon, he estimated the ‘bus would be ready to go into production in three weeks. ‘Impossible!’ ‘What will you bet?’ ‘£100 a day premium if early: same penalty if late!’ ‘Done.’” Was this a yarn spread to publicise the ABC? Not according to the *The Motor Cycle*’s letters page: “Dear Sir,—With regard to the short paragraph by ‘Ixion’ under the heading of ‘A Bet’, he had not the facts of the case quite as they were, neither did he complete the story. The general arrangement drawing of the machine had been made, and the engine certainly was one that was adapted to drive dynamos previously, but it had to be modified in design in a dozen different ways in order to make it suitable for motor cycle work. The bet was to get out the detail drawings of the whole machine, and have one on the road in three weeks, and it certainly was to the extent of £100 a day. Nothing was standard on the machine; even the hubs, spindles, and cones were special, as they both combined cone brakes. The gear box required patterns and castings to be made, for which drawings were not even prepared. There is only one frame lug similar to our previous design, and the rest were practically carved out of the solid. The tank, of course, was new and enamelling and plating had to be done. The three-speed gear was of an entirely new pattern, running in the flywheel on roller bearings throughout, and the brakes operated on quick pitch threads. Including drawings, patterns, castings, machining, fitting, erecting, enamelling, and plating, the whole job was done in exactly eleven days, and the machine was on the road ten days to the good (and it is still on the road). I received Mr TOM Sopwith’s cheque by the first post on the 12th day.

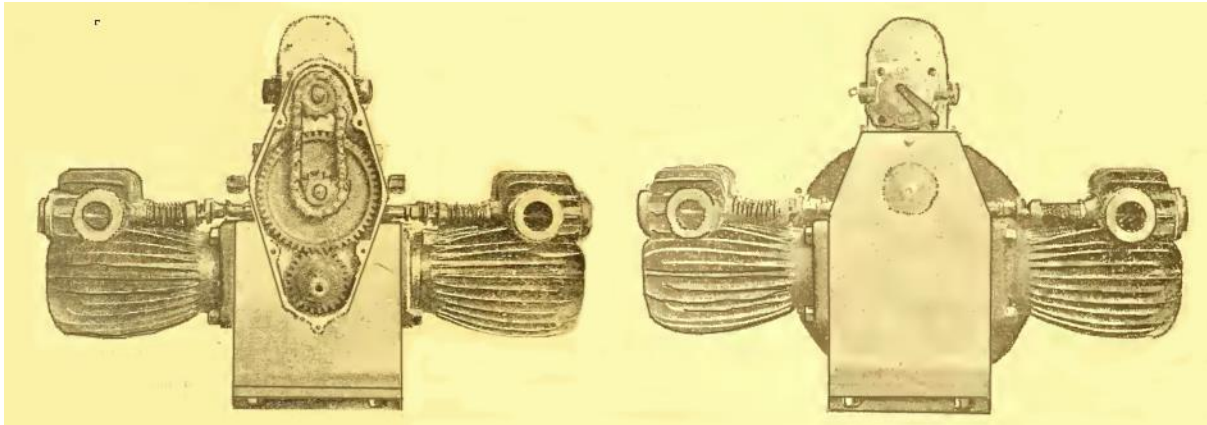
GRANVILLE E BRADSHAW. “



The DF&M Co of Wolverhampton announced a range of three 2½hp Villiers-powered Diamond lightweights. There was a single-speed two-stroke also available with a two-speed counter-shaft gearbox; and a two-speed four-stroke. They all had 50in wheelbases; the two-speed two-stroke model, pictured, was said to weigh 120lb.

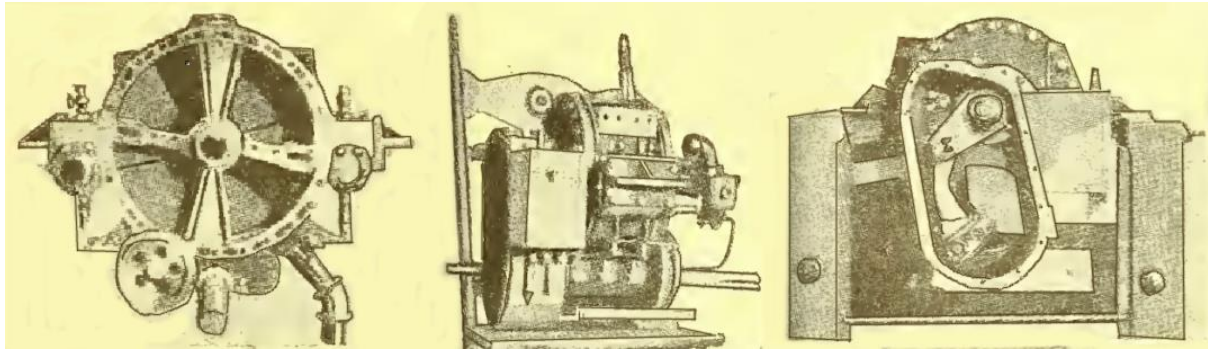
ACU SECRETARY TW LOUGHBOROUGH wrote an open letter to *The Motor Cycle's* readers in which he said: "Just four and a quarter years ago there came a call to British motor cyclists, to which they nobly responded—at first in their hundreds and later by thousands...many have climbed their last hill during these four years of war, and their comradeship in the future can be but a memory; they would not have us grieve, but we would not forget...we must get busy betimes, ready to fight for peace, to force the hands of red-taped officialdom, and to drive home the fact that to hinder transport—be it motor lorry or motor bicycle—is mere national suicide. More than two hundred clubs supported the Auto Cycle Union in 1914; to-day I doubt whether a dozen could get a committee together. But the boys will soon be returning, and already count on spending their 1919 holiday awheel, and not in Flanders. Surely in nearly every club one or two must be already at home who could fan the embers and get the club fire burning! Our individual members have stood by the Union nobly. Many a touring member who has not crossed a saddle at home since early in 1915 has regularly sent his subscription from Overseas...But the great majority of our clubs have necessarily succumbed under the stress of war. In almost every case I believe they can be revived and made more successful than ever...What of yourself, reader? Are you a 'clubman' past or prospective? Or do you prefer to 'ride the farthest who rides alone'? Whichever it is, may I suggest that your duty to-day is clear? Do not be satisfied with a promise from your club officials that something will be done—offer to do that something yourself...And, all of you, make the fullest possible use of all the help we can give you—that is what the Union exists for. Write whenever you are in doubt or difficulty, write when any suggestion

occurs to you as to how our influence may be increased, write at once when you hear of any threatened legislation, local byelaws, or trading restrictions which may affect your rights as a motor cyclist.”



The first flat-twin proprietary engine was launched by the Coventry Victor Motor Co, which planned to produce 100 engines a week. The Motor Cycle remarked: “The assembling trade now has the choice of almost every type of engine suitable for motor cycles, and it only requires a four-cylinder unit to complete the list.” The Victor had a bore and stroke of 75x77mm (689cc).

“AN ENGINE ONLY 18IN LONG, 18in high, which, it is claimed, develops 56hp and weighs only a little more than 100lb, has been produced in America. The design is unusual and somewhat reminiscent of the Wishaw rotary engine designed and built by a Scotch engineer just before the war. This American engine is not of the rotary type, but has a single cylinder divided into four compartments by two walls and two arms which oscillate. It works on the four-stroke principle, and performs the complete cycle of operations in one revolution of the crankshaft. The engine has, perhaps, 150 fewer parts than a four-cylinder engine of the conventional type with reciprocating pistons. The wall across the diameter of the large single cylinder is crossed at the centre by a pair of oscillating vanes supported by a hollow trunnion. This arrangement, it will be understood, divides the cylinder into four different chambers. These in turn correspond to the four cylinders of an ordinary engine. Firing occurs in 1, 2, 3, 4 order. As an explosion takes place in one compartment, the rocking piston head simultaneously compresses gas in the next chamber, fuel is drawn into the third one, and the fourth space exhausts. The oscillatory motion is changed into rotary motion by a connecting rod which turns a counterbalanced crankshaft. Probably the greatest difficulty in making an engine of this character efficient is that of rendering the ‘cylinders’ compression tight. In this engine leakage is prevented by spring-held packing strips that fit in grooves in the sides and ends of the piston head, and by packing rings that encircle the trunnion. The engine illustrated has a capacity equal to that of a 4-cyl. engine with cylinders 5 1/8in bore and 5in stroke (6,739cc).”



“Left: The head of the semi-rotary engine, showing interior of cylinder. The upright member is the rocking piston head. The size of a 56hp model is indicated by its comparison with the chair shown in the middle picture. Right: The connecting rod and counterbalanced crankshaft.”

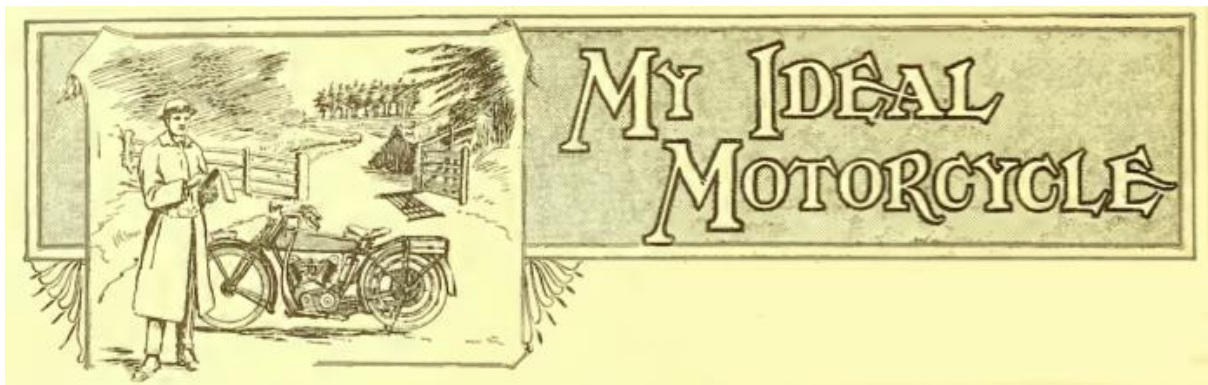
“UNTIL WE CAUGHT SIGHT OF ‘FLOSSIE’ the other day we had not realised how starkly simple the old times speed machines were in comparison with modern motor cycles. The lady in question (her name was lettered in violent crimson on a rather battered tank) was leaning against a garage window. She was nothing more than a frame, a pair of wheels, a belt, and an engine. The two great bare cylinders were topped off by a few scanty radiating fins, and a remarkably workmanlike overhead valve gear. When her owner (an RAF pilot some 6ft tall) came out with a new plug for her he handled the great machine as easily as if it had been a baby two-stroke. After she went off, with that effortless, seven-league action that only a high-geared racing twin can give, we fell to wondering if all of the complications we regard as necessities now were indispensable. Many of the old brigade still hold that the high-powered single-geared ‘bus is the most sporting machine of all to drive.”

“TO ALL MOTORISTS IT WILL come as welcome news that new grants amounting to £10,000,000 [£400,000,000 in today’s money] will be distributed by the Road Board for the reconstruction of roads and bridges...it is hoped to facilitate the reconstruction of about 200 bridges. The largest amount previously earmarked in a year for this work was £1,000,000...Mr Rees Jeffreys, secretary of the Road Board, has asked all highway authorities to submit their plans for reconstruction of roads as early as possible...There are more than 10,000 trained roadmenders on the several Fronts, not counting partly-trained roadmakers in the Labour Battalions. These men are being demobilised, and, with their up-to-date machinery, they may be distributed over the country to reconstruct the roads.”

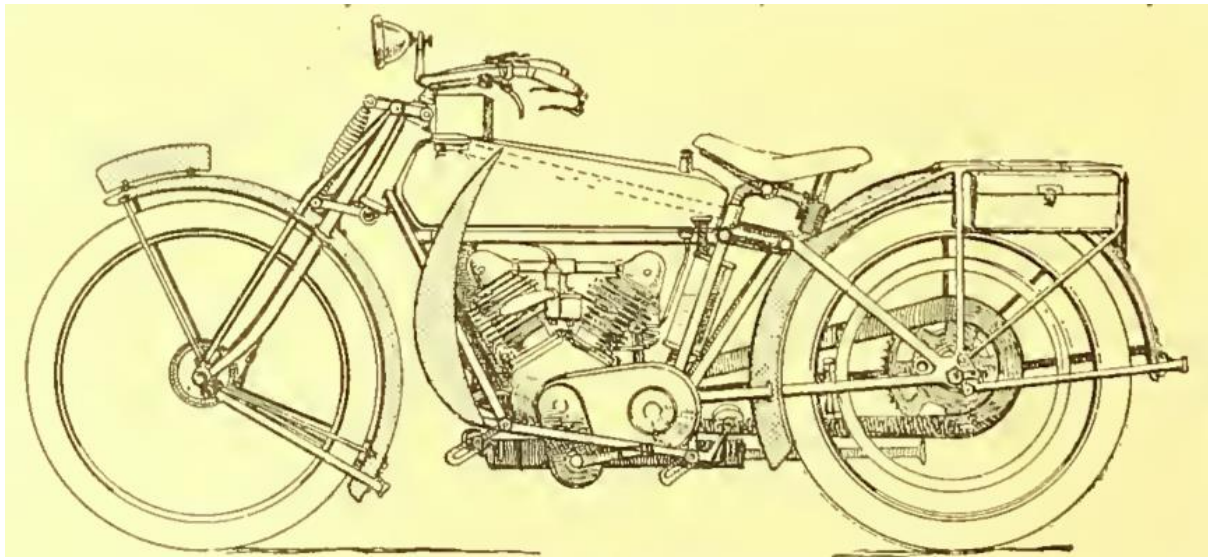
“A NEW LIGHTING ORDER has come into effect. Under its provisions all vehicles except handcarts and bicycles must carry two forward shining lamps, and all vehicles must display a red rear light. Motorists may use unobscured side lamps, which must have, if electric, bulbs not exceeding 12 candlepower, and, if acetylene, burners consuming not more than 14 litres per hour. The diameter of the front glass must not exceed 5in. Head lamps of any size may be used, but their electric bulbs must not exceed 24cp or their

acetylene burners 21 lit. All head lamp front glasses must be dimmed with either white paint or the equivalent of one thickness of tissue paper.”

“FROM TIME TO TIME we have the suggestion put forward that our existing heavy, solo machines will be displaced by an evolution of the 2 $\frac{3}{4}$ hp Douglas type which will give us a ‘go-anywhere’ mount of 200cc capacity, capable of maintaining good average speeds, of climbing hills as gamely as the 4hp single, and of sticking so tenaciously to its work that a speed gear would only be provided in the nature of an auxiliary accessory to be used in the most awkward emergency. These desirable features are to be obtained partly by virtue of a hoped for increase of engine efficiency and partly from a more (theoretically) favourable power to weight ratio resulting from the adoption of special metals.”



AN ENTHUSIAST WHO DEPENDED on his motor cycle for his living came up with his ideal mount: “I want a machine of medium power and weight, weatherproof, easily managed, giving a comfortable position, and ready to ride without much attention...a full 3 $\frac{1}{2}$ -4hp V-twin air-cooled four-stroke...lubrication must be by a throttle-controlled system through a really visible drip feed...Two speeds are usually sufficient, but I would prefer three. I wish to change gear or declutch without taking the hands from the bars...The drive is to be through chains—I do not desire a totally enclosed drive, or to have to work an hour or so removing cases in the case of chain breakage...An efficient rear springing system is absolutely essential...a sloping top tube passing through a saddle tank, two tubes in place of one from the head to front engine carrier, and two from the saddle lug to the gear box bracket.”



‘The ideal motor cycle’...clean, easy to use, comfortable and, let it be noted, a saddle tank.

“AMONG THE SEVERAL THINGS requiring the attention of the motor cycle designer may be mentioned improvements in suspension, mudguarding, chain cases, and carburetters...A prophet says that in ten years’ time the electric combined lighting, starting, and ignition unit will be standard on all motor cycles. We shall see.”

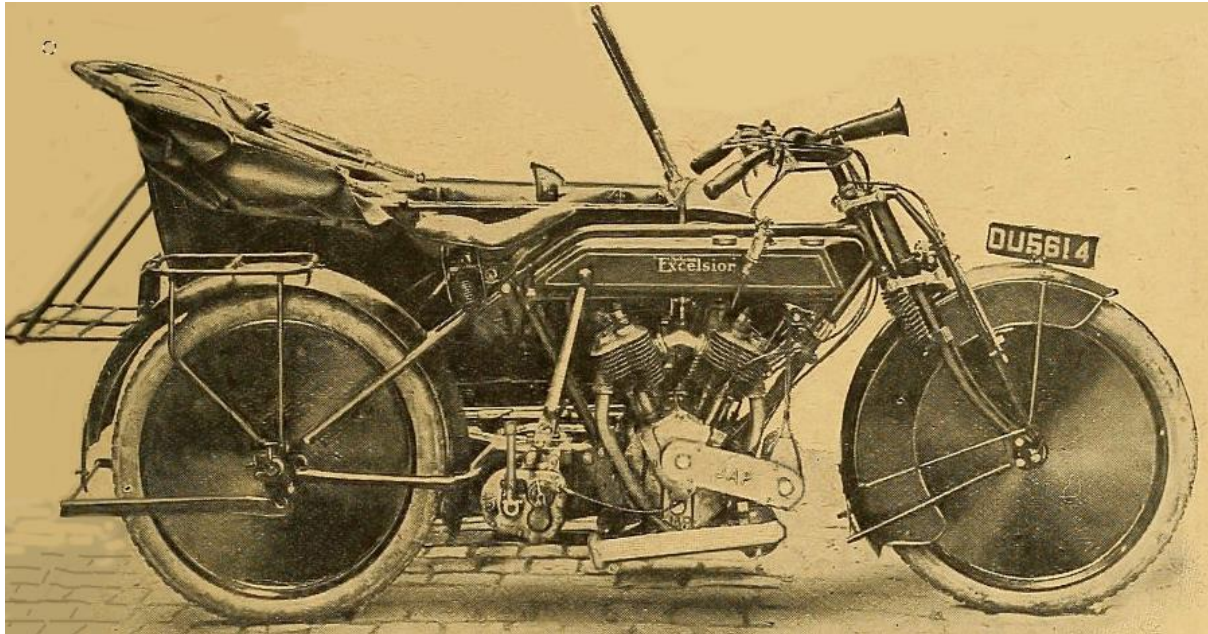
“JAP TWINS: THE 1919 6hp and 8hp JAP twin engines will be made with interchangeable crank cases, in order that they may fit motor cycles having identical frames without alteration.”

“IT IS DIFFICULT for some designers to hide their enthusiasm for 1920 models (hidden away from the pressman’s view) while they are detailing the additions designated ‘improvements’ to the 1914 model which will be sold in 1919.”

“HUSH MODELS: A FLAT TWIN lightweight from a Midland firm, a four-cylinder machine from a well-known light car company, and several new spring frame models.”

“THE COVENTRY-MADE EXCELSIOR is one of that class of British motor cycles which is designed ‘from the saddle’...The new machines will be a twin sidecar combination and a lightweight solo mount. The former will be obtainable with either 6hp or 8hp JAP engine, and will have 28x3in interchangeable wheels, which can be quickly changed without tools. The forks fitted are Druid Mark II. The transmission of the new model is all-chain and enclosed, the gear box being the Sturmey-Archer...ground clearance is 6in, yet it is possible to remove the cylinders without disturbing the rest of the engine. The mudguards are wide and well valanced, and leg shields will be fitted as standard...Another little fitment to assist in keeping the rider clean is a neat metal guard covering the valves and tappets of the rear cylinder. Footboards are fitted. Provision is made for the installation of a dynamo lighting set if required. The brakes are an improved design of the internal expanding type...in addition to the usual engine tools,

there will be a set of box spanners which will fit every nut on the combination...The Excelsior lightweight will be a new design, embodying a Villiers two-stroke engine and a Sturmey-Archer two-speed gear box with hand-controlled clutch...Druid Mark II forks are fitted."



The Excelsior twins (this is the 8hp version) featured a front brake that could be locked on as a car-style handbrake, a spare wheel and a sidecar rack to carry a two-gallon fuel can.

"SIR,—I SHOULD LIKE TO PUT IN A WORD for pillion riding. I have carried my wife at least 10,000 miles during the last eighteen months on business on a pillion seat, through all sorts and conditions of weather. In August we did 700 miles in five days on a trip to Cornwall. With bicycle, myself and wife, two tins of petrol, and packs on our backs, we scaled a quarter of a ton. The outward journey included the well-known Porlock Hill and hill to Lynton from Lynmouth. then on to Ilfracombe, Launceston, Wadebridge, Bodmin Moor; the return journey through Bodmin, Plymouth, Torquay, then Tavistock, Dartmoor, and the last day Exeter, South Molton, Lynmouth, Exmoor again, Bridgwater, Cheddar, and Bristol. A few weeks ago I had to go to London twice, the return journey being done in the day, and it did not forget to rain during the night after we had left Uxbridge. The mount is a 4¼hp BSA, and I find not the least difficulty in steering; in fact, I cannot tell any difference with my regular passenger, but with a stranger it is at once apparent, and steering then requires careful managing. It is undoubtedly the most economical means of transit for two, though not the most comfortable, especially in cold weather. With all thanks to those brave lads and motorists who have, by their courage and endurance, helped to secure peace and made possible once more the pleasures of the open road.

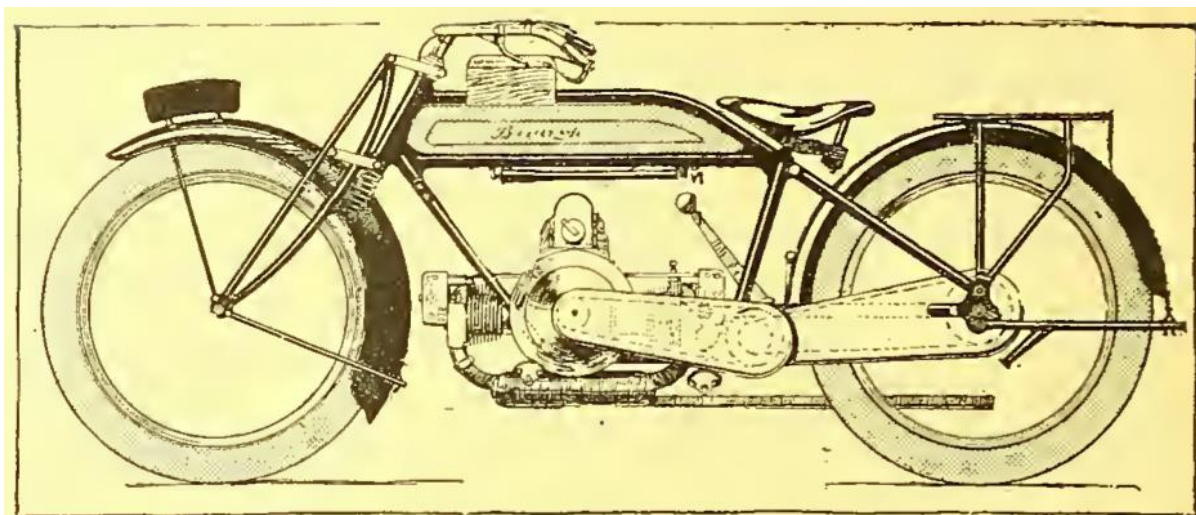
A RURAL SURVEYOR, Alcester."

“SIR,—SOME OF THE MEMBERS of the York and District Motor Club have discussed the advisability of getting the club restarted, and hope soon to have a meeting to arrange for it to be opened in the New Year. Many of our members have been, and are yet, in the Army and Navy. Some will not come home, others may not for some time; so that in 1919 we may not get into full swing, but think it better to have a start. The Government recognise that quick transport is necessary for the future development of this country. Let them sweep away the restrictions on motoring as quickly as possible, and reduce the price of petrol, and see that we have a good home supply of spirit—benzole and other spirit—so that a small ring of petrol companies cannot force up the price of petrol to the extortionate figure they have done: for if the industry from a commercial and sporting side is not to suffer the price of petrol must come down to a reasonable figure, and quickly. Many of our club members joined the local VAD under Capt Anderson, and have done good service for the last three or four years in taking stranded soldiers and sailors home into the country when there were no trains or other means of conveyance, in many cases taking them fifty miles, and sometimes at midnight or the early hours of the morning. They also drove the ambulance cars when moving convoys of wounded from the station to the various hospitals. Wishing you every success, and longing for the good time coming when, restrictions swept away and the price of petrol or other spirit at a reasonable figure, we may revel in the joy of the ‘openroad’. A very happy Christmas and a prosperous New Year.

GA REED, Hon Sec, York &DMC.”

“THE MOTOR CYCLING CLUB intends to have a pretty full programme in 1919. With this end in view it has decided that a paid secretary should be appointed. It will be a part-time job, and any enthusiastic motor cyclist who could take on the job is requested to apply to the chairman, Mr Robert Head, 17, Baker Street, London, W1. Next season’s programme will contain a despatch riders’ trial, the opening run, and the annual London-Edinburgh run.”

“THE IMPORTS OF MACHINES and parts for the twelve months to December 31st, 1918, amounted to £22,479, as against £106,126 in 1917 and £176,015 during 1916. It is interesting to compare these with the 1914 returns, which give £187,676 for value of imports and £1,168,799 for the exports.”



Brough's 1919 'Peace' model was a 489cc fla twin with detachable heads which developed 14bhp at 4,200rpm. It was redlined at 5,600rpm "and, lest this statement should cause a certain amount of incredulity, we may say that Mr George Brough is prepared to stand by it to the extent of £100...Messrs Brough do not feel satisfied that any reliable spring frame has yet been invented, and they are therefore continuing to pin their faith to the rigid frame...The machine, as a whole, is designed expressly for the solo rider, and, in our opinion, is an excellent medium-powered mount for the purpose."

...AND SO THE YEAR DREW TO A CLOSE. Peace. But the war, and the flu pandemic that followed, robbed motor cycling of so many pioneer riders. No one was in the mood for seasonal jollity but the first peacetime models were appearing, there was at least a trickle of petrol, paraffin and benzole to power them, the clubs were reforming and riders were dreaming of better days to come. So here's The Motor Cycle's Christmas message to its readers, followed by a seasonal pic from the USA, a couple of poignant cards and a clutch of contemporary adverts. See you in 1919...

"CHRISTMAS, 1918: FOR THE FIRST TIME SINCE 1913 we are able, without a feeling of inappropriateness, to wish our readers most heartily the good old-fashioned wish, 'A Merry Christmas and a Happy New Year'. Once more at the season of 'Peace on earth and goodwill towards men' have wars been made to cease throughout the world, though the time of universal goodwill is not yet. Our sailors and soldiers have covered themselves with glory, and have helped to win the greatest victory the world has ever seen. It now remains for our statesmen to impose a just and lasting peace upon the vanquished aggressors. We have our views of the terms which such a peace should contain, but we do not intend to weary our readers, who doubtless also have their own ideas of the subject, by reciting them here. Our duty lies not with the high politics of Europe, but with the future of the motor cycle as an implement of utility, health, pleasure, and sport—a much more attractive subject, and one upon which we can look without any misgivings for the future. Therefore to our friends the manufacturers we wish greatly increased output and big dividends—but not too big, please; to those

serving with our forces abroad, a speedy and safe return to their native country; to the older riders, tours and country jaunts in plenty; to the younger, races, trials, and hill-climbs galore; to all we wish, an improvement in the quality of petrol combined with a reduction in price; a good supply of benzole; the abolition of that grandmotherly absurdity, the speed limit; an absence of tyre troubles; good weather and good roads. Given all these things, and a few more, our final wish of a Happy New Year becomes almost superfluous. At any rate, we hope that such is the case. And so: 'Heap on more wood! The wind is chill; But let it whistle where it will, we'll keep our Christmas merry still.'—Sir Walter Scott."

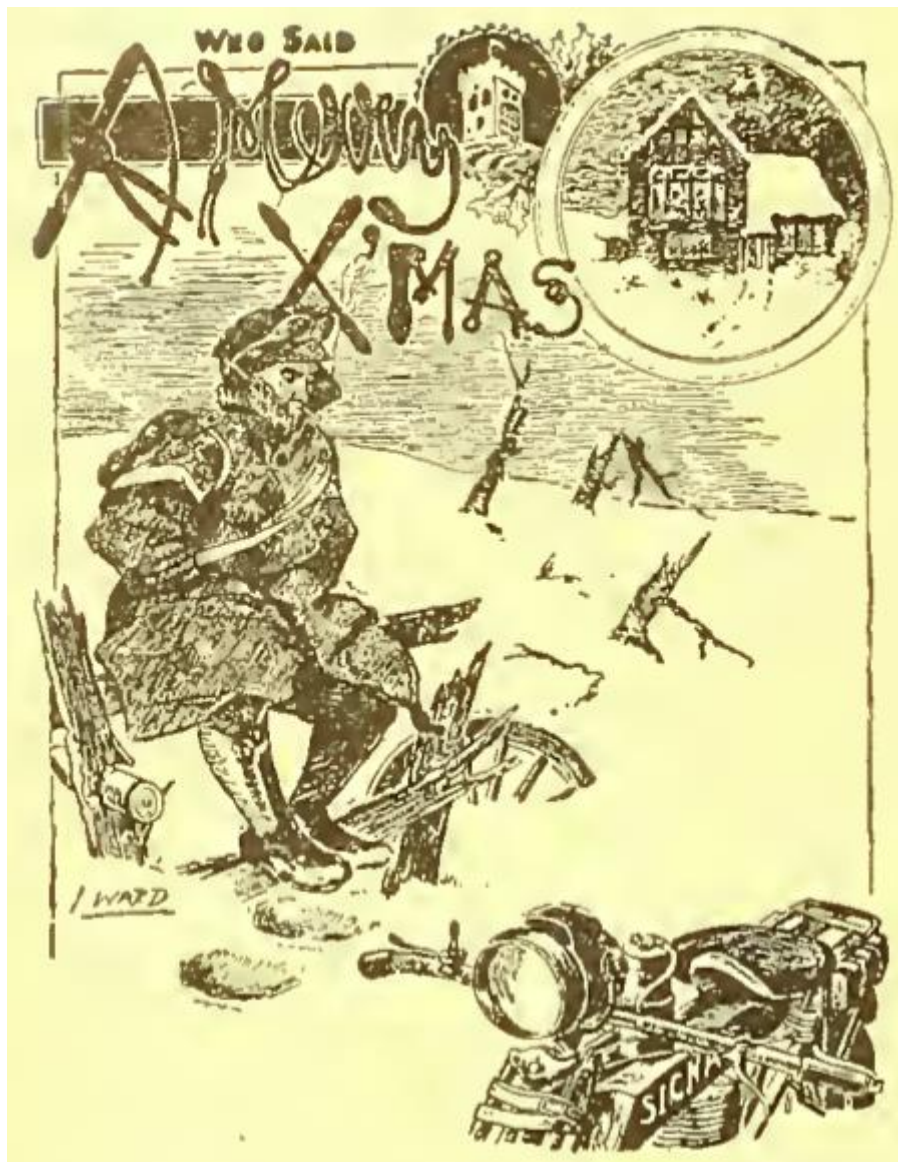


"Compliments of the season. To our readers—at home and overseas, in khaki, blue and mufti—we send Greetings. we wish you all a Merry Christmas and a New Year full of of happiness awheel."



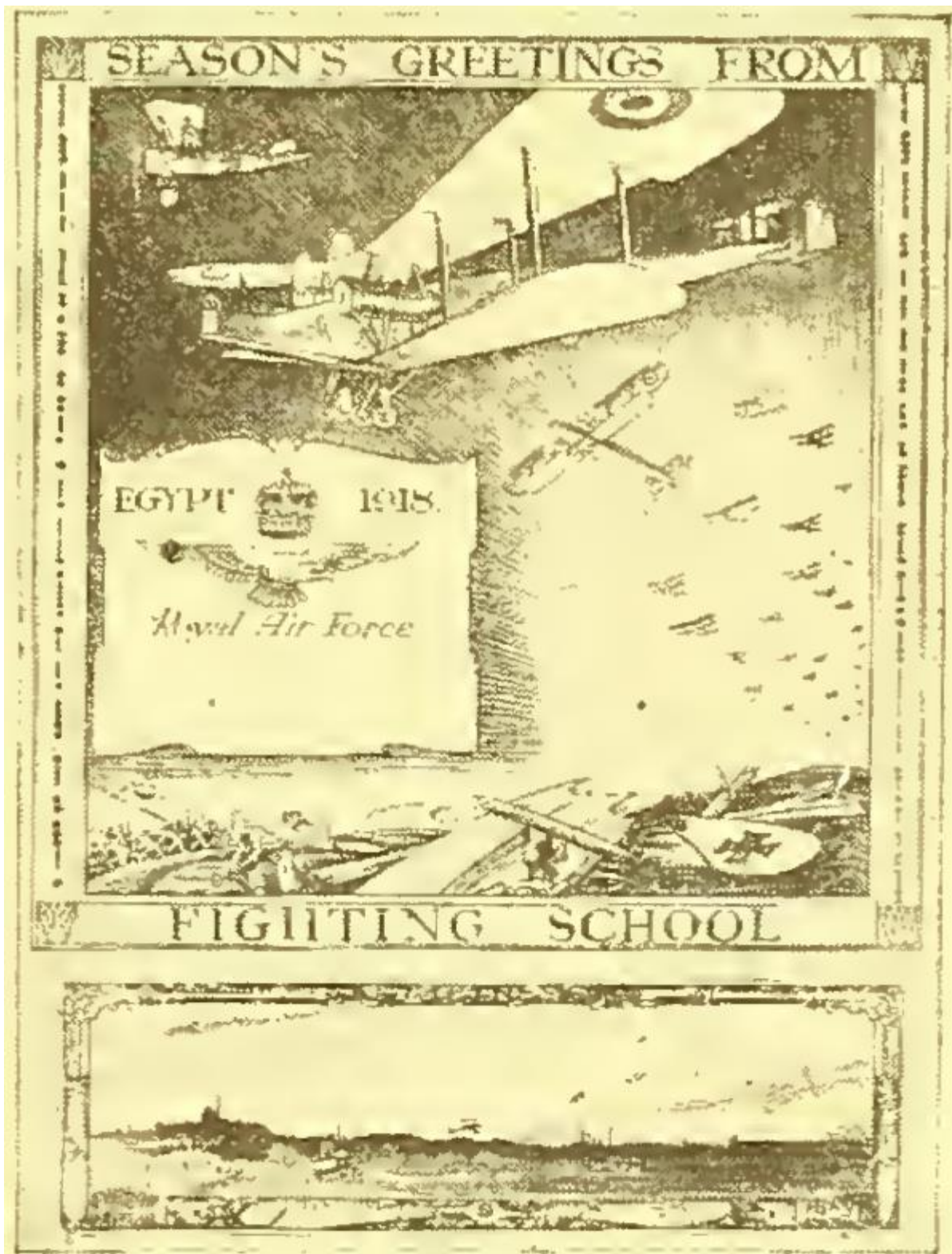
“Motorcycle

efficiency for St Nick: In other days the traditional evergreen found its way to the homestead and the waiting kiddies on a bob-sled—now it is whisked from Woods to fireside by motorcycle and sidecar.”

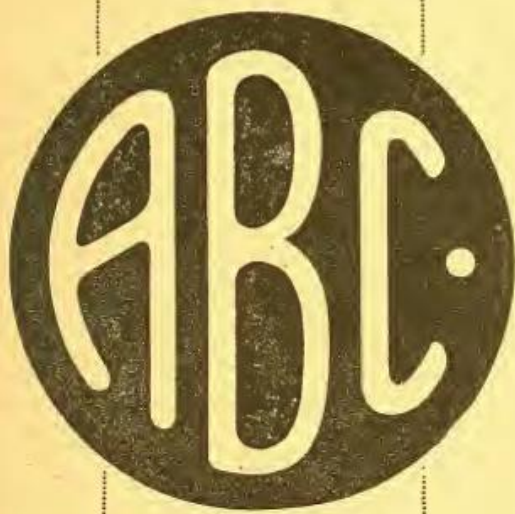


"A greeting card

received from the DRs of a divisional signal company, of which the artist is a member. The sender, who omits his name, says: 'With all good wishes and appreciation for the paper that has raised, even in dark days, many a heated argument, and has for a time dispelled the thoughts of war.' The following verses were inscribed on the back of the above greeting card: 'You've heard her far, you've heard her near, By dusty day and murky night; The throbbing purr and fickle gear, That wild "hoot toot" and blinding light, And fain would quell Her devilish smell. This palpitating bi-wheeled steed, This pampered pet, of pre-war days, Works night and day in Britain's need, O'er roads well damned her duty plays; Darts here and there With missives rare. In sombre war clouds 'pears a rift, Portentous signs of fairer day; I breathe to Heaven, towards you drift My Christmas Greeting; and I pray All wars to cease With coming Peace.'"



"A greeting card received from Egypt. The inscription on the back reads as follows: 'To the Editor of the 'Blue Un', with Chief Mech WW Humphreys's (late of Garden Monocars) compliments, hoping that next year will see us all back again and the good old times renewed. Cheerio! PS—It's hotter here than any monocar cylinder ever gets.'"



**"The World's
Best Motor Cycle."**

(Copyright.)

The Storming of the Motor Cycle Industry.

The new A.B.C. will storm the motor cycle industry by its daring design, shattering all previously accepted standards of motor cycle construction to atoms.

It will compel manufacturers to re-design their machines if they are to compete with the A.B.C. in engineering achievement, or get within measurable distance of it in performance.

The A.B.C. will possess an atmosphere of quality, exclusiveness, and refinement unexampled in the history of motor cycling. It will give in utility, value, and service, results which none can challenge.

The new A.B.C. will be announced shortly; keep your order till then, and if your choice is the A.B.C. you will get quick delivery, as our arrangements are complete for huge quantity production.

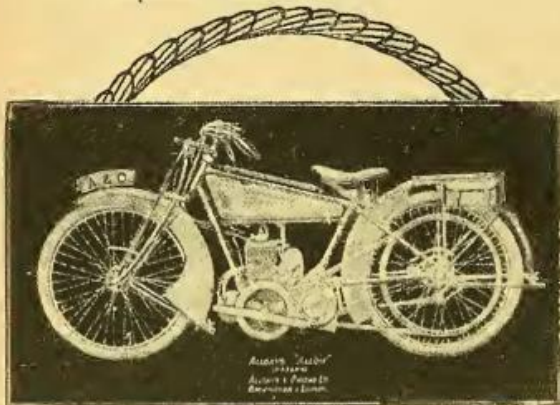
A.B.C. MOTORS, Ltd., Walton-on-Thames.

'Phone: Walton-on-Thames, 220.

'Grams: "Rev. Walton-on-Thames."

Enquiries for France, its Colonies, and Protectorates, should be addressed to the Société Française des Motocyclettes A.B.C., 23, Avenue de l'Opéra, Paris.

THE MOTOR CYCLE.



**TWO-STROKE
(PATENTED).**

ALLDAYS & ONIONS PNEUMATIC CO., Ltd.,
Matchless Works - - - BIRMINGHAM,
and at 58, Holborn Viaduct, E.C.1.

APPLICATIONS ARE INVITED FOR POST-WAR AGENCIES.

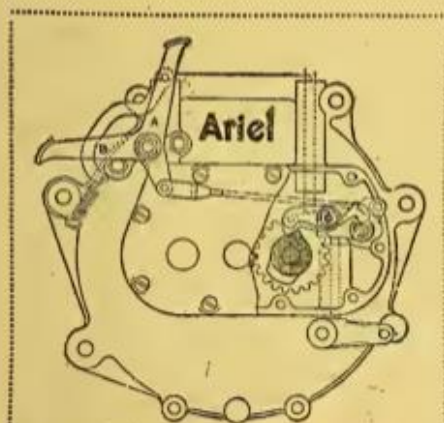
For Medical Men, Farmers,
and all those engaged on Work
of National Importance, this
Machine is offered as being

—The Best—
for Reliability, Comfort, and
Economy.

Alldays Allon

EASY STARTING OF THE ARIEL MOTOR CYCLE GUARANTEED

The easy starting of the Ariel is specially mentioned in nearly every letter we receive from owners. The following are a few extracts selected at random.



The Ariel (Patent) Decompressor.

A simple mechanical device—absolutely positive in action—nothing to get out of order. To bring the decompressor into operation the front lever (A) is placed in the forward position, and the rear lever (B) pressed down to bring the engine under full compression.

“Even on to-day’s so-called petrol, mine starts at first kick.”—W. D. W., Redbourne.

“The other night the bike was left out from 12 a.m. till 8 a.m. in a perfect rain storm. When I got to her in the morning she started up with the first kick.”—

Dr. G. H., Shetland

“It is easy starting and most powerful on hills.”—B. S. W., Stowmarket.

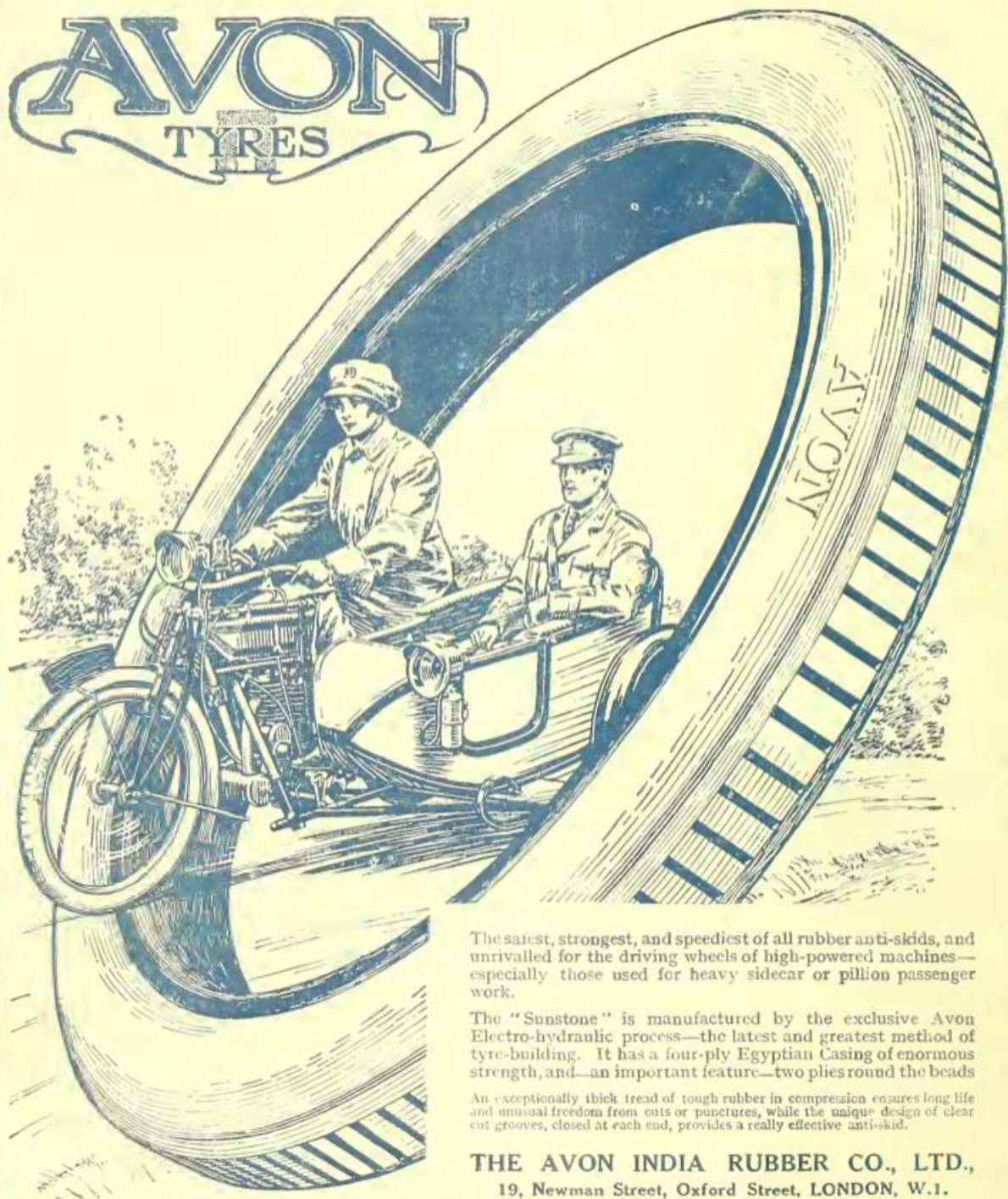
“I find the easy starting a great comfort.”
—Dr. D. M. H., Bolton.

“The easy starting decompressor is a revelation.”—A. B., Ulverston.

Art Catalogue post free from—

ARIEL WORKS, Ltd., 3, Bournbrook, BIRMINGHAM.

AVON TYRES

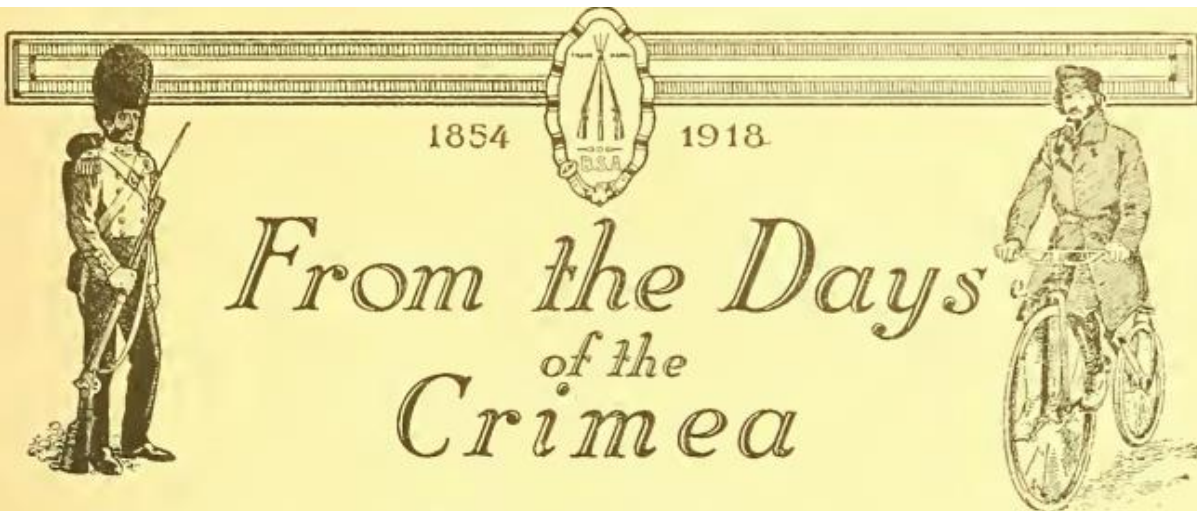


The safest, strongest, and speediest of all rubber anti-skids, and unrivalled for the driving wheels of high-powered machines—especially those used for heavy sidecar or pillion passenger work.

The "Sunstone" is manufactured by the exclusive Avon Electro-hydraulic process—the latest and greatest method of tyre-building. It has a four-ply Egyptian Casing of enormous strength, and—an important feature—two plies round the beads

An exceptionally thick tread of tough rubber in compression ensures long life and unusual freedom from cuts or punctures, while the unique design of clear cut grooves, closed at each end, provides a really effective anti-skid.

THE AVON INDIA RUBBER CO., LTD.,
19, Newman Street, Oxford Street, LONDON, W.1.



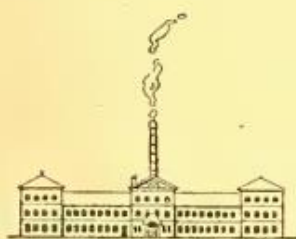
From the Days of the Crimea

SOME EPISODES IN B.S.A. HISTORY.

ORIGIN OF THE B.S.A. COMPANY

IT is an interesting fact that it was owing to a shortage of munitions during the Crimean War that The Birmingham Small Arms Company had its origin. The Government of that day found it necessary to call on 16 firms of Birmingham gun-makers to furnish a supply of arms, and from this beginning originated the great B.S.A. Factories which have, on more than one occasion, proved of National importance.

Though over 60 years have passed since the time of the muzzle-loader—entirely hand-made, and typically British in the excellence of its workmanship and material—B.S.A. productions have unceasingly maintained the same high standard of quality. To-day B.S.A. Bicycles and Motor Bicycles, by their reliable service under the severe test of modern warfare, are still upholding the great B.S.A. traditions.



Original B.S.A. Factory, 1851

THE BIRMINGHAM SMALL ARMS COMPANY LIMITED.
BIRMINGHAM.

Efficiency

even under the most strenuous war conditions is **GUARANTEED**—if you fit your bike with the **ALL-BRITISH**

C.A.V. Magneto
BRITISH THROUGHOUT

C. A. VANDERVELL & Co., LTD.
Electrical Engineers
ACTON, LONDON, W. 3.

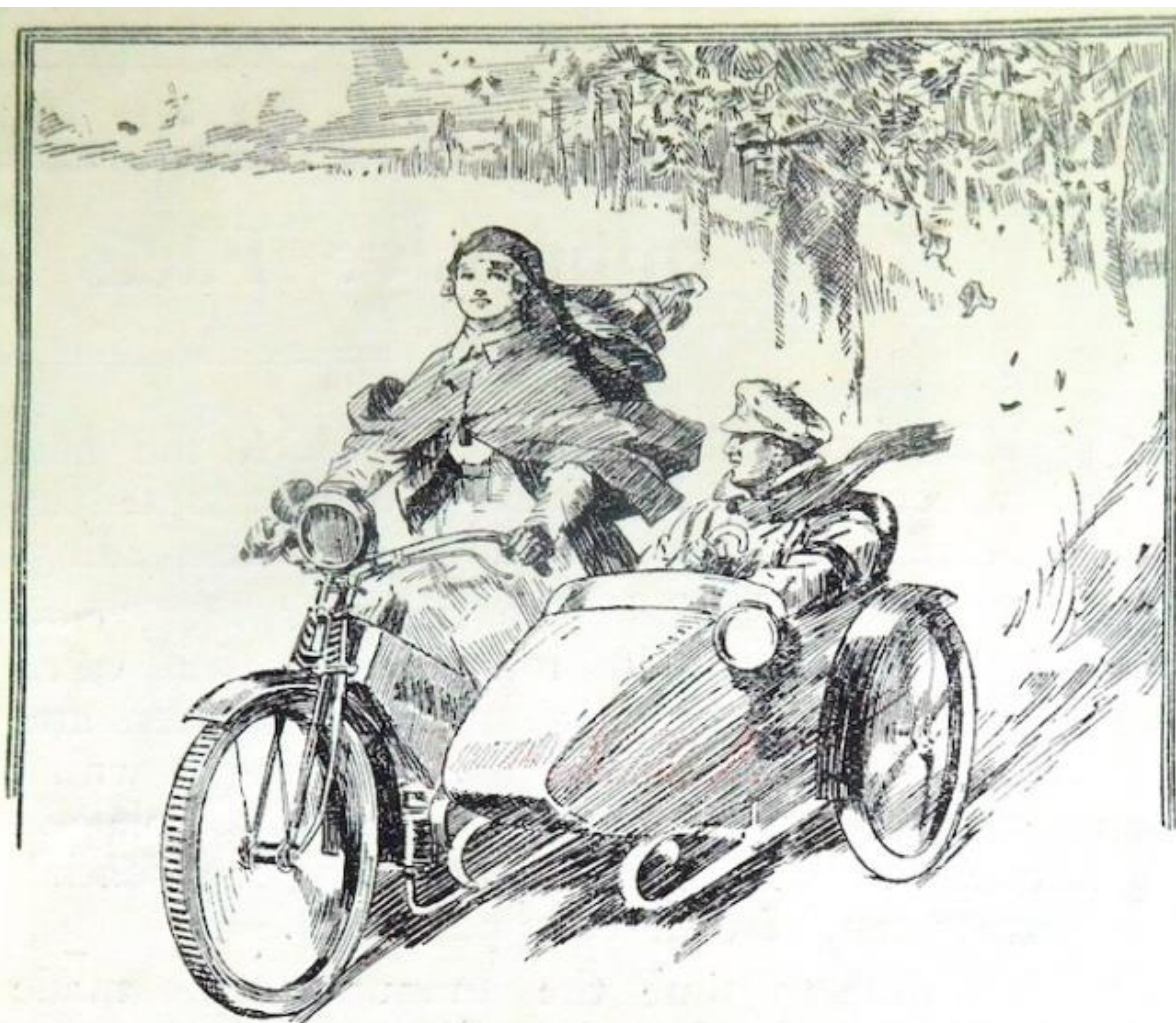


ACTIVE SERVICE

LIKE our splendid troops the **C.A.V.** British Magneto is always in front proving daily its wonderful reliability under most adverse conditions

C.A.V. Magnetos
BRITISH THROUGHOUT

C.A. Vandervell & Co. Ltd.
ACTON, LONDON, W.



The pleasant road to Convalescence

NOTHING helps more speedily the complete restoration of the boys' health than a jolly jaunt through the lanes and roads of the old country—and where the surface is rough the resiliency of Avon Tyres ensures smooth travelling and a perfect outing.

Equip your Motor Cycles, Volunteer Cars, and
Light Delivery Vans with AVON SUNSTONES.

AVON
TYRES

WHEN HE COMES HOME

the World will seem a different place and
Life a new sensation!

Then will long drawn-out suspense give
way to pride and pleasure — then as we
snatch the golden hours and spin o'er hill
and dale, by river side or within sight and
sound of the silver sea — we shall just
LIVE again! —

Just he and I and our

CLYNO

Note that the post-war 8 h.p. CLYNO is now being booked by Agents everywhere and after-war rotational deliveries arranged.

Ask us about it and for folder.

CLYNO

Engineering Co.,
PELHAM STREET,
WOLVERHAMPTON.



Douglas

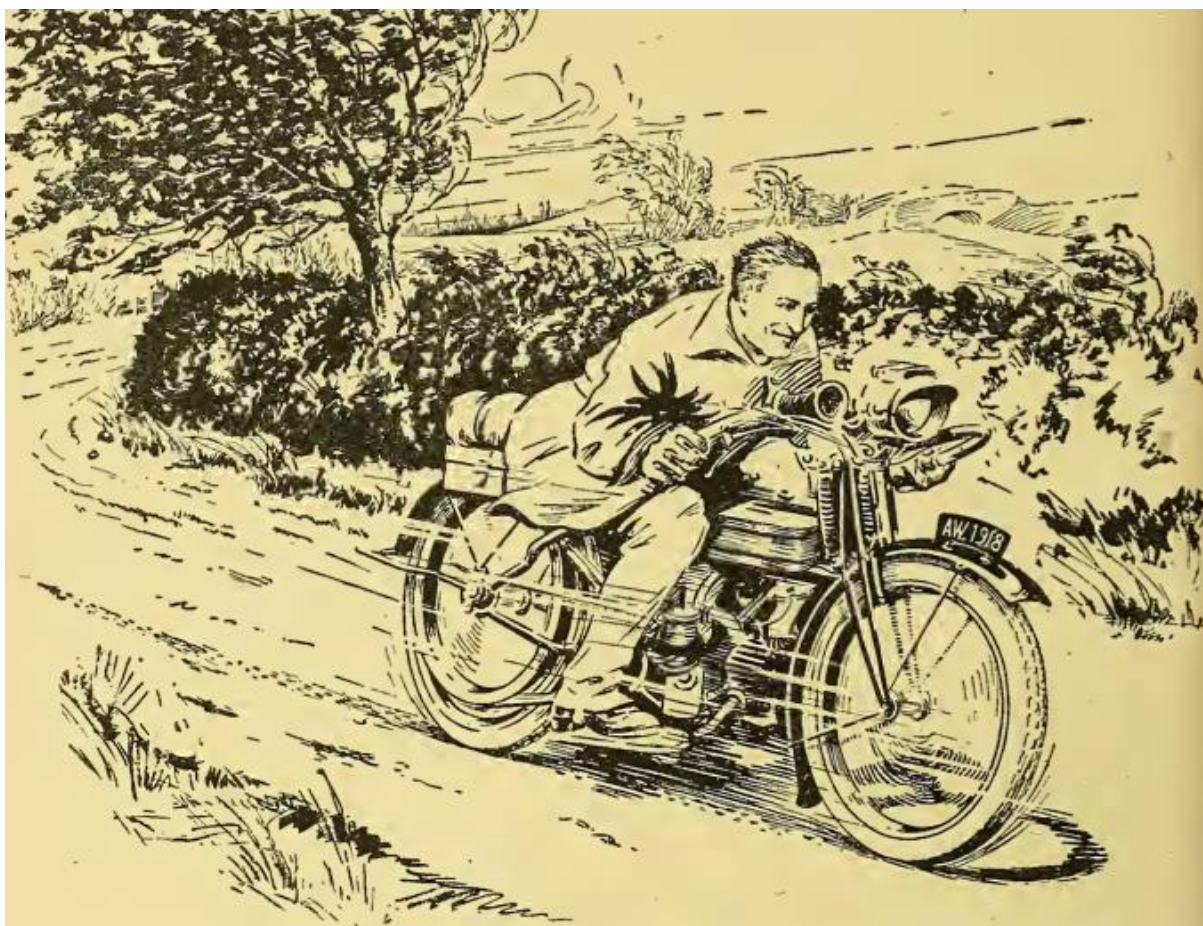
Steadiness on Grease
is an inherent quality of the
Douglas.

*Apply Dept. "B" for
1918 list.*

DOUGLAS MOTORS, LTD.,
KINGSWOOD, BRISTOL.

*39, Newman Street,
London, W.1.*





LET me ride with the wind on my forehead,
 The beat of the air through my hair!
 Let me face the rush of its passing—
 The open, sweet, God-given air.



DUNLOP

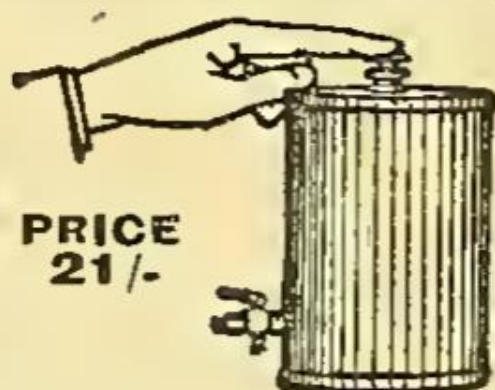
RUBBER CO., LTD.,

Founders of the Pneumatic Tyre Industry,
 Para Mills, Aston Cross, Birmingham.
 London 146, Clerkenwell Road, E.C.1.
 Telephone. 5375 and 5376 Holborn.

Let me face the wind in the evening,
 Let its coolness revive my soul;
 Let me pass from the glare of the pavement
 To places where God makes men whole.

Let me feel the wind on my temples
 When I answer the Last Great Call;
 Let my spirit go out in a windstorm,
 Clean, pure, on my last ride of all.

**THE
EUK
EASY STARTER**



**PRICE
21/-**

**KEEPS MACHINES
READY TO RIDE.**

Only needs a touch, and it gives perfect instant easy starting, no matter how long it has been out of use. Always satisfactory. Never fails. Over 33,000 users praise it. So will you. Details free from—

**ALEXANDER & CO., Depl. B, 115, Lothian Road,
EDINBURGH; 274, Gl. Western Road, GLASGOW.**

FOR VALUE AND SATISFACTION YOU CAN'T BEAT THE
UP-TO-DATE
BARGAINS at

WAUCHOPE'S

Britain's largest stock of latest models, new or slightly used, offered at lowest bedrock prices for cash or easiest easy terms, with immediate delivery and fullest guarantee. Many specially suited for A R M Y, NAVY, AND NATIONAL SERVICE WORKERS.

WAUCHOPE'S
9, SHOE LANE,
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LONDON, E.C.

Phone: 4777 Holborn.
Wire: Cyclist, London.

HERE ARE A FEW SELECTIONS FROM TO-DAY'S
BIG LIST. WRITE FOR A COPY.

4 1/2	1915 B.S.A. Com., 3-sp. C.B. Sidecar	\$55 0
8	1917 (new) MATCHLESS Com., four wheels	\$120 0
—	HUMBERETTE, water-cooled model	\$110 0
6	1913 ROYAL ENFIELD Sidecar Com.	\$55 0
7-9	1916 HARLEY-DAVIDSON Combination, 1917 finish	\$75 0
7-9	(new) READING Commercial Carrier	\$65 0
6	1914 CLYNO Com., spare wheel, hood and screen	\$65 0
6	1915 ROYAL ENFIELD Com., coach Sidecar	\$67 10
2 1/2	1917 (new) ROYAL ENFIELD, 2-str.	\$44 0
2 1/2	1916 (new) CALTHORPE-J.A.P.	\$32 0
2 1/2	1917 (new) ALLON, 2-speed, 2-stroke	\$42 0
2 1/2	1914 Lady's DOUGLAS, 2-sp., 8-start	\$35 0
4	1916 T.T. NORTON	\$63 0
3 1/2	1914 NEW HUDSON	\$15 0
3 1/2	PREMIER, Brampton gear	\$15 0
2 1/2	1915 DOUGLAS, 2-sp. and F.E.	\$37 10
—	G.W.K. Light Car, fully equipped	\$125 0
8	1913 MORGAN, fully equipped	\$65 0

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SIDE CARS

QUALITY & COMFORT

MILLS - FULFORD,
LTD., COVENTRY.
THE ORIGINAL
SIDECAR MAKERS

IT WAS NOT DUE TO GREAT PUSH

that ***** was ADVANCED to
THE PREMIER

position. It was undeniable merit and superiority over the weaknesses and defects of the OPPOSING FORCES

IN THE FRONT LINE OF SADDLE CONSTRUCTION



XL-ALL,
BIRMINGHAM.

THE Apollo

SUPERLATIVE

ENSURES
MAXIMUM
POWER



THE APOLLO MFG. CO.
APOLLO WORKS,
BIRMINGHAM.

B. A. T.

RIDE IN COMFORT?
YES — You can do so
on a

BAT MOTOR
MANFG. CO.,

PENGE,
LONDON, S.E.20.

Our gallant men
on all Fronts and
all Seas at Home
and Abroad, we
extend our Greetings:.....
May God speed your work
and send you safely back to
your homelands.

Douglas

When halcyon days return, DON'T FORGET
the reliability of the

HOBART

MOTOR BICYCLE

is the result of 15 years' manufacturing and riding experience, and make a point of securing early delivery of one of these handsome, handy, and reliable machines.

HOBART BIRD & CO., LTD.,
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Established 1894. Telegrams: "Hobart, Coventry."



THE WORLD'S BEST MOTOR-CYCLE
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Stands Out Above All
says an experienced Motor Cyclist.

A.B.C. MOTORS, Ltd., Walton-on-Thames.

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WHEN . . .

PEACE IS IN SIGHT

We shall be pleased to have your enquiries for the post-war

HOBART MOTOR BICYCLE.

The experience obtained in war will be a big factor in perfecting our new models, and will further enhance the already high reputation of

HOBART MOTOR BICYCLES.

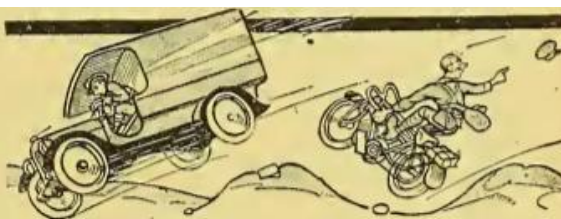
Remember, we are one of the oldest manufacturers of motor bicycles.

BUSINESS ESTABLISHED 1884.

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Hobart Works,
Coventry,
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HOBART



Bad road surfaces, no matter how treacherous, have no terrors for users of

BELDAM All-British Tyres

The Beldam V Steel-studded Motor Cycle Tyre, with its combination tread of steel and rubber—steel studs indented and flush with the face of the rubber—grips on snow, slime, and frost-bound surfaces. Beldam Tyres engage the road at once. Wheels do not spin when starting, and the grip is never relaxed however the road surface may change. Other Beldam advantages are long mileage (due to the quality of materials used and the deep tread) and antipathy to cuts and punctures—as hundreds of Beldam users testify. May we send you complete lists of sizes and prices?

The Beldam Tyre Co., Ltd., Brentford, Middlesex

Economical Insurance for Motor Cyclists

PROVIDENT ACCIDENT AND GUARANTEE COMPANY, LIMITED,

FORMERLY KNOWN AS
THE PROVIDENT CLERKS' AND GENERAL GUARANTEE AND ACCIDENT CO., LTD.
ESTABLISHED 1865.

REASONABLE POLICY CONDITIONS.

PROMPT SETTLEMENT OF CLAIMS.

£10 REWARD.

£10 will be paid for information which may lead to the recovery of a "Royal Enfield" 6 h.p. Combination. Registration No. MX 6681, Engine No. W 5071. Special screen and hood, Watford speedometer No. 705, 1915 make. Also the same amount will be paid for similar information leading to the recovery of a 1914/15 3½ h.p. Twin "Zenith," Engine No. 52830, mag. chain case slightly damaged. "Matchless" 8B Model, Engine No. 34572, Frame No. 3041, Regd. No. LR 3768 undertank tube cracked at head.

H.P.	PREMIUMS FOR PRIVATE USE ONLY.	
	VALUE OF MOTOR CYCLE and SIDECAR. Not Exceeding £50.	Exceeding £50.
Under 3½	£2 7 6	£2 10 0
3½	2 10 0	2 15 0
4½	2 15 0	3 0 0
5—6	3 0 0	3 10 0
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15% REDUCTION IF INSURED BEARS THE FIRST £1 OF ALL CLAIMS.

25% " " " " £2 " "

Extra benefits and Personal Accident Insurance included at slightly increased premiums.

FULL PARTICULARS ON APPLICATION TO—

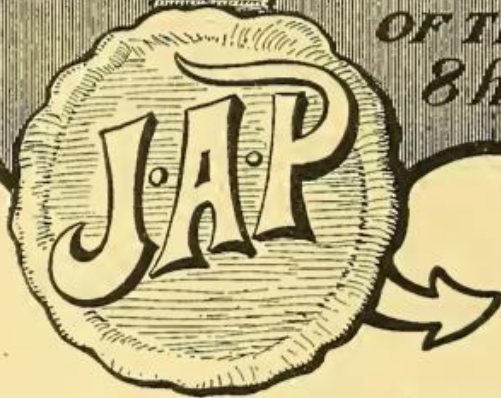
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West End Office: 199, PICCADILLY, LONDON, W.

Telegrams—"Perpend, Ave, London."

Telephone—London Wall, 5305 (4 lines).



The
Guaranteed Horse-Power
OF THE POST-WAR
8hp J.A.P. ENGINE



Since its introduction in 1895, we have been continually improving our manufacturing resources, and are now in possession of a factory the efficiency of which is unequalled.

The large number of J.A.P. Engines at present in use on heavy War Service, in a multitude of ways working satisfactorily under abnormal strain, is testimony of their power and efficiency.

Full range—2½, 4, 5, 6, 8, 10 h.p. and 11.9 h.p. four-cylinder engines

Write for descriptive booklets.

J. A. PRESTWICH & CO.,
Northumberland Park, Tottenham, London, England

SATISFACTION
Matchless
"J.A.P."

KNOWN ALL OVER THE WORLD
ROYAL ENFIELD
"J.A.P."

POWER
"J.A.P."
Morgan Runabout

BELIABILITY
The "Bat"
"J.A.P."

"British"
"J.A.P."
AND BEST
ENGINES

SILENCE
The
SUNBEAM
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ROYAL RUBY
"J.A.P."

ECONOMY

ZENITH
"J.A.P."
SPEED

A powerful, sweet-running engine contributes largely to the pleasure of your motoring. The post-war J.A.P. sidecar engine will stand out unique among all others for its Power, Silence, and Flexibility. It is the outcome of years of previous experience, coupled with the most up-to-date design and choice of materials.

Manufacturers of machines with a reputation realise the qualities of the J.A.P., and know that to fit them will ensure complete satisfaction. It is to your interest to study only machines fitted with the famous J.A.P. engines.

The J.A.P. booklet, describing any model, may be had on application

J. A. PRESTWICH & CO.,
Northumberland Park, Tottenham, London, N.17

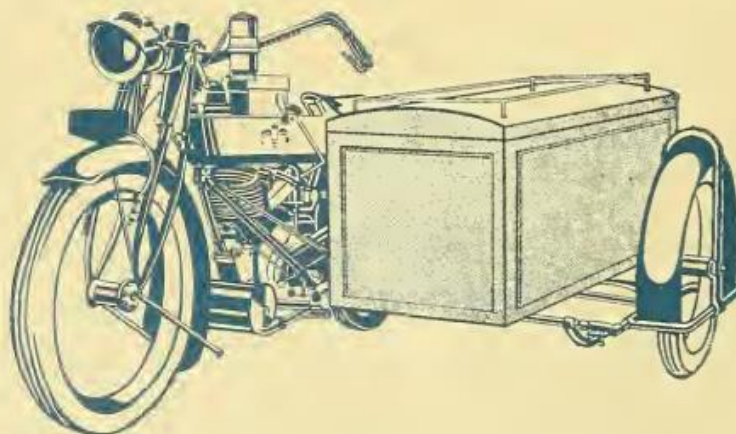
Matchless

THE PERFECT PASSENGER MOTORCYCLE

IN its capacity as a Delivery Outfit, the Matchless War Model will do more work, will make deliveries more quickly and economically, than many a larger and more expensive delivery vehicle—the sidecar frame of the Matchless will accommodate any form of carrier.

Hundreds of tradesmen are proving daily that the Matchless Delivery Outfit is a profitable war-time investment. May we send you full particulars? We can give delivery from stock.

H. COLLIER & SONS, LTD.,
PLUMSTEAD, S.E.18.



PAX VOBISCUM!

The armies and navies of England and of her Allies having secured this condition, why not likewise assure yourself of such a "peace" of mind in deciding to entrust us with your future motor dealings?

MAUDES' MOTOR MART,
100, Great Portland Street, LONDON, W.1.



No. 0. 3 in.
Jaws open $\frac{3}{16}$

No. 1. 4 in.
Jaws open $\frac{1}{8}$

No. 2. 6 in.
Jaws open $\frac{1}{4}$

No. 3. 9 in.
Jaws open $\frac{2}{8}$

KING DICK

WELL and truly made from forged steel, "King Dick" Spanners grip "fair and square." They cannot burr a nut when properly adjusted. Famous for 35 years: guaranteed for ever. Four sizes, 3 in. to 9 in.

See that your spanner is stamped with the **Bulldog** mark here shown—the mark of the genuine "King Dick."

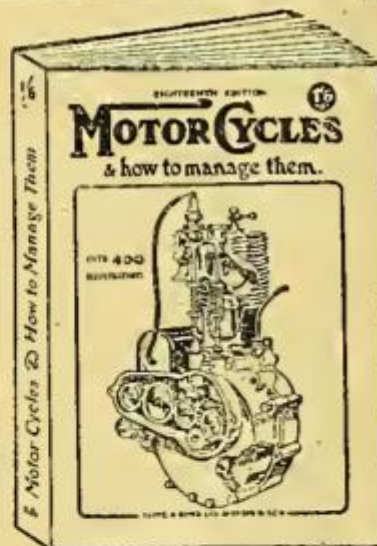
Orders dealt with as Government requirements permit.



ABINGDON-ECCO, LTD.
Abingdon Works, Tyseley,
Birmingham.

London: G. H. Smith, 12, Mortimer Street, W.1.

**The sale of
this book
is fast
approaching
a
quarter of
a million
copies**



**— which proves its usefulness
to motor cyclists.**

"Motor Cycles and How to Manage Them" is, in fact,
the one book that no motor cyclist should be without.

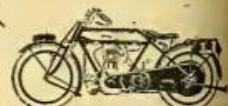
This edition (the eighteenth) is bigger than ever and better
than ever—over 350 pages, with more than 400 illustrations,
covering all types of machines and every conceivable
aspect of their care and management. Each part of the
machine, from engine to speedometer, is fully dealt with.
Service riders will find it particularly helpful.

Price 1/6 net. By Post (Home or Abroad) 1/10.

From
Iliffe & Sons Ltd., 20, Tudor St., London, E.C.4.,
and all leading booksellers.



IMMEDIATE DELIVERY OF MILITARY MODELS.
WRITE FOR NEW BOOKLET, "WHY A SINGLE-CYLINDER, AND
NORTON DRIVING HINTS."

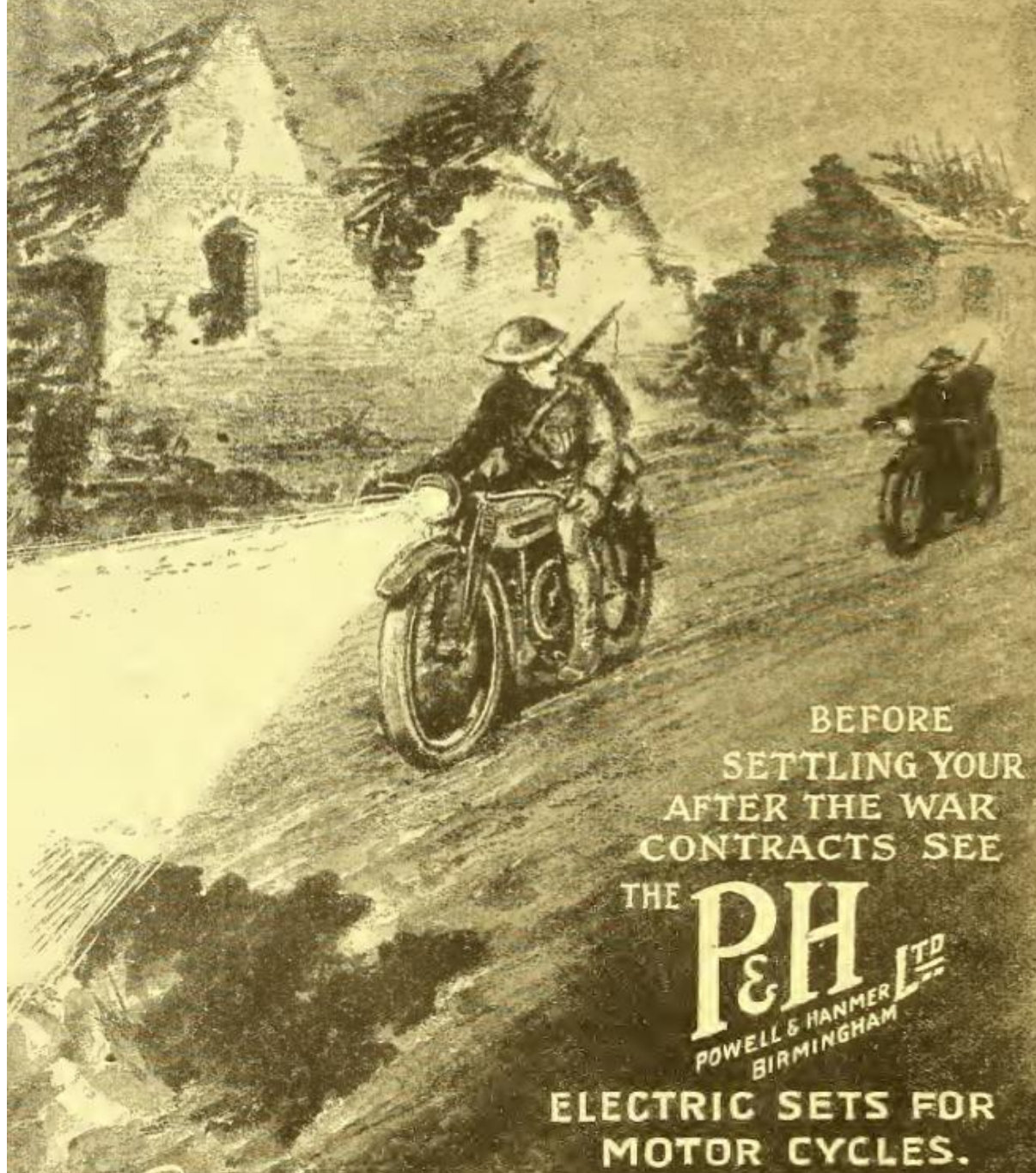


NORTON

NORTON MOTORS, Ltd., ASTON, BIRMINGHAM.

LONDON: BARTLETT & CO., GT. PORTLAND ST.

Look out Bill,
there's a -----
shell hole ahead.



BEFORE
SETTLING YOUR
AFTER THE WAR
CONTRACTS SEE

THE

P&H LTD
POWELL & HANMER
BIRMINGHAM

ELECTRIC SETS FOR
MOTOR CYCLES.

SUNBEAM MOTOR CYCLES WITH PERFECT POWER TRANSMISSION.

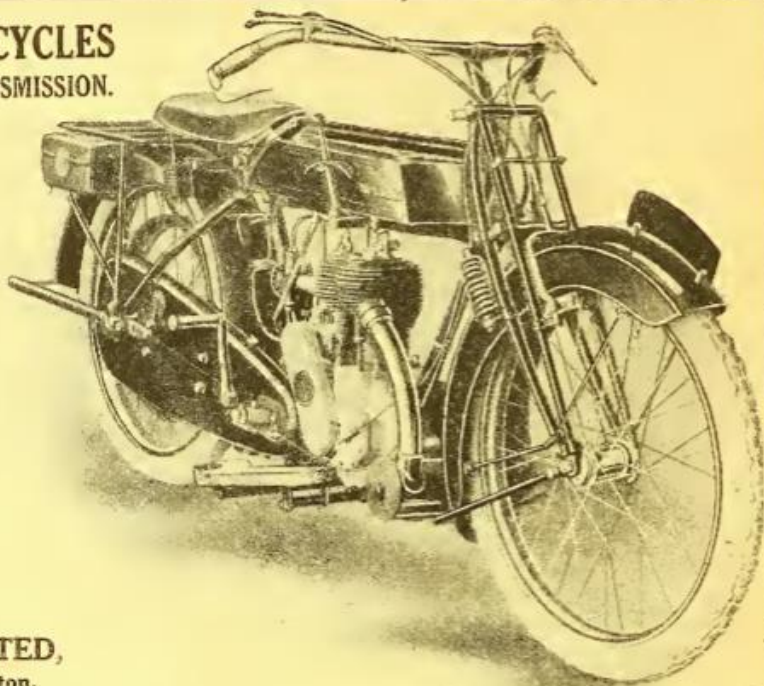
*The Best Motor Cycle before
the War—during the War—
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AT the present time
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BICYCLES can only be
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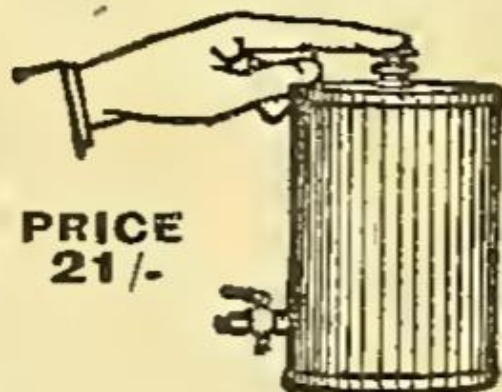
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When the story of the war comes to be told in detail, one of its most fascinating side-issues will be that of the part played by the

TRIUMPH

MOTOR CYCLES.

Our whole output has been at the command of the Allied Governments since hostilities began. The trusty TRIUMPH has successfully withstood the cruellest conditions which modern war has imposed. In the delivery of despatches, in bringing machine-guns into position for action, in a hundred different ways the TRIUMPH has time and again proved worthy of its name and reputation.

TRIUMPH CYCLE CO., Ltd.,
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Triumph's race-proved

499c sv single, the 'Trusty', introduced many servicemen to motorcycling; more than 20,000 were supplied to the British armed forces with another 10,000 going to our allies. About 25,000 flat-twin Douglases were also supplied to the military.

REMEMBER

That all the undermentioned machines are guaranteed, and that we will exchange free of charge within three weeks of purchase any machine that does not give entire satisfaction. This system of trading applies also to our 30 Light Cars and Sporting Cars in stock. Full lists free. Exchanges.

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CALTHORPE-J.A.P., 1916, 2½ h.p., 2-speed, clutch	29 gns.	PREMIER, 1914, 3½ h.p., 3-speed	29 gns.
CALTHORPE-J.A.P., 1915, 2½ h.p., 2-speed, clutch	25 gns.	PREMIER, 1914, 3½ h.p., 2-speed countershaft	29 gns.
CALTHORPE, 2-stroke, 1916, 2-speed	23 gns.	PREMIER, 1915, 2½ h.p., clutch, perfect	24 gns.
CALTHORPE, 2-stroke, 1916, single-speed	17 gns.	RUDGE-MULTI, brand new 1917, 3½ h.p., standard	£65 10.
CONNAUGHT, 1915, single-speed, 2-stroke	19 gns.	RUDGE-MULTI, genuine T.T., 3½ h.p., I.O.M. model, disc wheels long	68 gns.
CLYNO, 2½ h.p., 2-speed, 2-stroke, clutch, renovated	27 gns.	RUDGE-MULTI, 1914, 3½ h.p., standard, renovated	34 gns.
DOUGLAS, late model, 4 h.p., T.T. Colonial model, 3-speed, as new	59 gns.	RUDGE-MULTI, 1913, 3½ h.p., standard	27 gns.
DOUGLAS, 1914, 2½ h.p., 2-speed, clutch, kick-start	34 gns.	RUDGE, 1915, 5-6 h.p., 3-speed, renovated	39 gns.
DOUGLAS, 1915, 2½ h.p., T.T., 2-speed	39 gns.	RUDGE, 1914, T.T. Philipson, 3½ h.p., renovated	27 gns.
ENFIELD, 1916, 3 h.p., 2-speed, clutch, kick-start, renovated	39 gns.	REX, 1913, 6 h.p. Combination, 2-speed	27 gns.
F.N., 1914, 7-9 h.p., 4-cylinder, 3-speed gear box, clutch, kick-start, Mills-Fulford underslung coachbuilt Sidecar	69 gns.	SCOTT, 1914, 3½ h.p., 2-speed Combination, 39 gns.; solo	33 gns.
HUMBER, brand new 1913 flat twin, 3-speed, in stock	75 gns.	SCOTT, 1913, 3½ h.p., 2-speed Combination, 34 gns.; solo	27 gns.
HUMBER, 1913, 3½ h.p., 2-speed coachbuilt Combination	35 gns.	SCOTT, 1912, 3½ h.p., 2-speed Combination, 29 gns.; solo	22 gns.
HARLEY-DAVIDSON, 1915, 7-9 h.p., 3-speed dynamo lighting Combination	65 gns.	SUNBEAM, 1915, 6 h.p., 3-speed Combination, Gloria Sidecar	87 gns.
INDIAN, 1915, 5 h.p., 3-speed, T.T., clutch, kick-start	45 gns.	SUN-VILLIERS, 1916, 2-speed, 2-stroke	22 gns.
INDIAN, 1915, T.T., 7-9 h.p., clutch	39 gns.	SUN-VILLIERS, 1915, single-speed, 2-stroke	17 gns.
INDIAN, 1914, T.T., 7-9 h.p., clutch	29 gns.	SINGER, 1914, T.T., 2½ h.p., clutch	19 gns.
INDIAN, 1914, 7-9 h.p., 2-speed	34 gns.	TRIUMPH, 1913, 3½ h.p., 3-speed Combination	29 gns.
INDIAN, 1913, 7-9 h.p., 2-speed	29 gns.	T.D.C. de Luxe, 2-speed 2-stroke	22 gns.
INDIAN, 1914, 7-9 h.p., 2-speed coachbuilt Combination	52 gns.	VELOCE, 1916, 2-speed, 4-stroke	26 gns.
JAMES, 1916, 3½ h.p., twin, 3-speed, clutch, kick-start	42 gns.	VELOCETTE, 1915, 2-speed, 2-stroke, ladies' model	27 gns.
JAMES, 1915, 3½ h.p., twin, 3-speed, clutch, kick-start	42 gns.	WHITING-J.A.P., 1916, 4-5 h.p., twin, 4-speed, Jardine, spring frame	56 gns.
JAMES, 1914, 4½ h.p., single, 3-speed, renovated	35 gns.	WILLIAMSON, 1915, 8-10 h.p. water-cooled Combination	65 gns.
JAMES, 1914, 4½ h.p., single, single-speed, renovated	29 gns.	WOOLER, 1916, 2-speed, 2-stroke, spring frame	27 gns.
LINCOLN-ELK, 1913, 3½ h.p., variable gear, waterproof Bosch	19 gns.	ZENITH-GRADUA, 1915, 8 h.p. countershaft, Corvette Sidecar	59 gns.
MATCHLESS, 1914, 8 h.p., T.T., 6-speed, renovated	39 gns.	ZENITH-GRADUA, 1915, 8 h.p., T.T., solo	49 gns.
MATCHLESS, 1913, 6 h.p., 2-speed, coachbuilt Combination	35 gns.	ZENITH-GRADUA, 1914, 6 h.p., clutch, kick-start	45 gns.
MOTOSACOE, 1916, 3½ h.p., twin, 2-speed, clutch, kick-start	42 gns.	ZENITH-GRADUA, 1914, 3½ h.p., renovated, as new	32 gns.
NEW HUDSON, 1915, 6 h.p., 3-speed, coach Sidecar, renovated	52 gns.	ZENITH-GRADUA, 1913, 6 h.p., direct drive, solo	37 gns.
NEW HUDSON, 1916, single-speed, 2-stroke	25 gns.		
NEW IMPERIAL, 1916, 2-speed J.A.P. 2½ h.p., renovated	29 gns.		

Any machine sent on "The Motor Cycle" Deposit System.

RIDER TROWARD & CO., 31, 40b, & 78, High Street, HAMPSTEAD, N.W.3.

Phone: Hamp, 4934, 5392

One minute from Hampstead Tube Station.

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Volex MOTOR CYCLE LIGHTING.

CONVERT YOUR ACETYLENE LAMPS TO ELECTRIC.

This improved type will be appreciated by all users. The adapter screws in place of existing burner, and can then be wired up to a Dry Battery or Accumulator.

PRICE 3/- EACH
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We also supply above set complete with 4 volt "Volex" Aero Battery, Bulb, and Twin Cord, 18/- per set.

"VOLEX" DRY BATTERY ELECTRIC LIGHTING SET FOR MOTOR CYCLE AND SIDECAR. OR SIDE AND TAIL SET FOR LIGHT CAR.

If desired, we can supply Accumulator Sets instead of Dry Batteries at the same price where Accumulator charging is convenient.



Complete wiring and connections.

Price £7 : 5 : 0 Complete as illustrated.

Head or Side Lamp as above, with 4 volt Battery, in Satchel, and Bulb and Cord, 57/- complete.
Head and Rear Set as above, with 6 volt Battery, in Satchel, complete, 63/-.
Torpedo Tail Lighting Set, complete with Lamp, as above illustration, Cord, Bulb, and 4 volt "Volex" Giant Battery, in Satchel, 42/- each.

IMPORTANT.—ACCUMULATOR LIGHTING SETS CAN ONLY BE SUPPLIED WHEN ORDERS ARE ACCOMPANIED BY PRIORITY CERTIFICATE.

CLAROVEX MOTOR CYCLE HORN.

Powerful Electric Motor Cycle Horn, black enamel finish, with push attachment and connecting wires and bracket complete.

No. N 34/19 £1 : 0 : 0 each.
Limited number only



THE "W. & G." Special Metal Filament Bulb

When ordering, state whether for use with Dry Batteries or Accumulators. Miniature screw, 2, 4, and 6 volt, 1/- each.

Small Bayonet Cap, 2, 4, 6, & 8 volt, 2/- each



Ward & Goldstone
SALFORD MANCHESTER

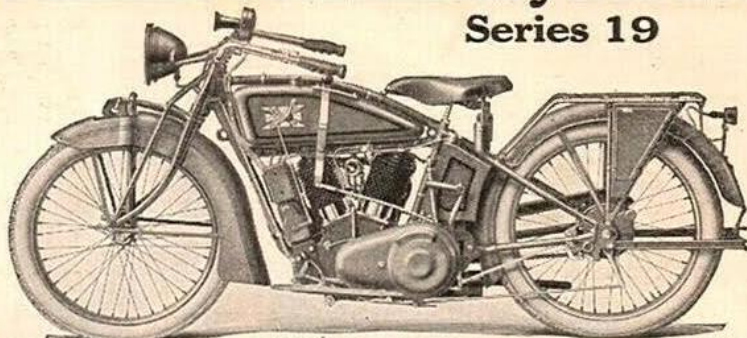
(Box 17), Sampson Works, Salford.
Contractors to H.M. Government.

The New EXCELSIOR Military Model

The Master Motorcycle

Series 19

*Pre-eminent on the hills,
Supreme in speed,
Reliability and Endurance
proven in public tests
and private service*



In the new model is embodied all the details of motorcycle perfection that have been developed in the production of a powerful and dependable machine for Army service which simply means power and stability to meet all possible road conditions without weakness at any point and the least possible necessity of repairs or adjustment.

Standard Equipment \$290.00 — Electrical Equipment \$320.00

SOME OF THE SPECIAL FEATURES

Extra Large, Roller Bearing, Multiple Disc Clutch, with removable bearing faces.

Double Truss, Military Type Front Fork, the strongest fork ever put in a motorcycle.

Excelsior Cushion Sprocket equalizes the pull and conserves every ounce of power delivered by the motor.

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Inclosed Clutch and Motor Drive Chain, protects these important parts from dirt and road grit.

Foot Starter and Automatic Compression Control, assure a quick and easy start always — in any kind of weather.

Tubular Steel Luggage Carrier with Steel Tool Box.

Rustproof, Military Olive Drab Finish, including hubs, spokes, etc.

See the dealer or write us for new catalog describing the Military Model, Excelsior Lightweight and Sidecar

EXCELSIOR MOTOR MFG. & SUPPLY CO., 3702 Cortland Street, CHICAGO, ILL.

MAKE YOUR BIKE A MOTORCYCLE

at a small cost, by using our attachable outfit. Fits any Bicycle. Easily attached. No special tools required.

"Used His Four Years"

Harry A. Hyatt, of Boreas River, New York, writes: "About four years ago I received my motor attachment, and wish to say that I am satisfied with it in every way, for it has certainly given me good service. Anyone wanting a motorcycle or attachment, I would recommend them to the Shaw Manufacturing Co."

FREE BOOK Write today for bargain list and free booklet, fully describing the SHAW Bicycle Motor Attachment. Motorcycles all makes, new and second-hand, \$35.00 up.

SHAW MANUFACTURING CO.
Dept. 6 GALESBURG, KANSAS





Reproduced from the famous painting by E. H. Thomas, the noted English artist, entitled, "The Harley-Davidson in the Dardanelles"—a portrayal of an incident of actual service which took place nearly two years ago.

Making History With a Harley-Davidson

WAR is the great test. Only the trustworthy—the strong—the efficient survive. The Harley-Davidson put to the test "over there", emerged a striking example of the survival of the fittest—proven under fire.

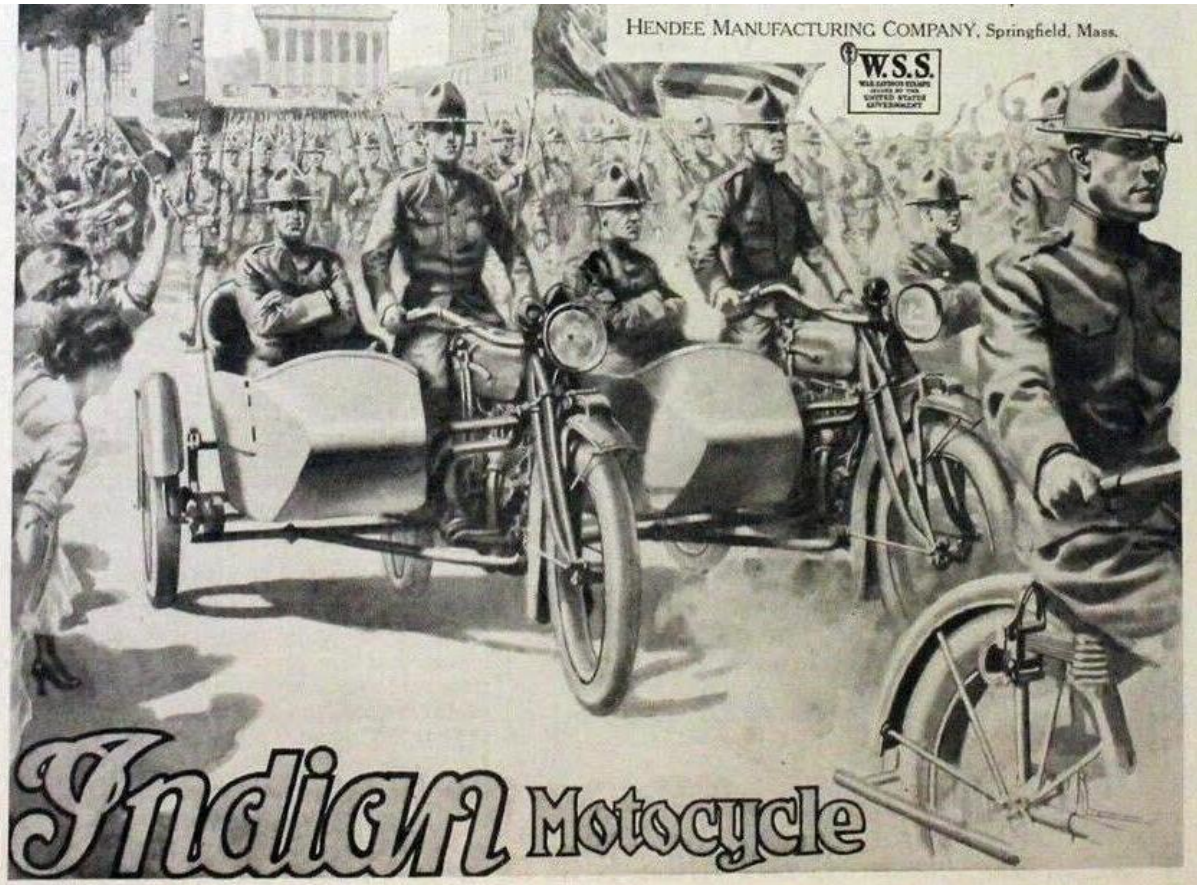
Fleeting out over the scarred and broken road-beds and across shell-torn battle fields, as the flying squadron gets into action—facing the snap and crackle of machine guns—carrying the officer or dispatch rider on his mission of peril—or bringing one more machine gun "closer up"—the Harley-Davidson proudly shoulders an ever-increasing re-

sponsibility of service—and gets there. Sturdy, mobile, surprisingly economical, it has weathered the grilling demands of war and the severe, yet just, criticisms of military experts.

Look over the Harley-Davidson—the mount that takes the gaff with the boys "over there". Go to your Harley-Davidson dealer and see the latest models or write for catalog.

Harley-Davidson Motor Co., 519 B St., Milwaukee, Wis.

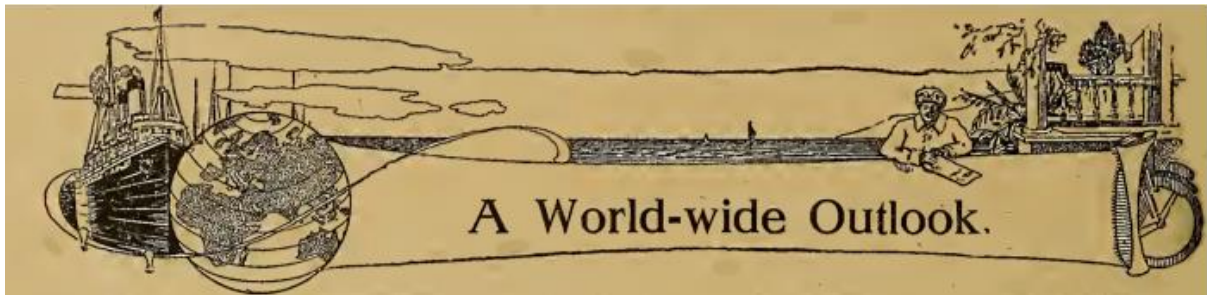
Producers of High Grade Motorcycles for Sixteen Years
Also Manufacturers of Harley-Davidson Bicycles



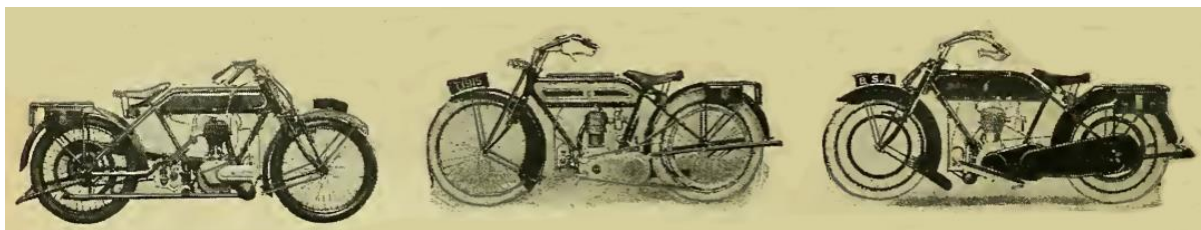
HENDEE MANUFACTURING COMPANY, Springfield, Mass.

W.S.S.
WHEELER & SONS
MAKERS OF THE
LATEST MOTOR
EQUIPMENT

Indian Motorcycle

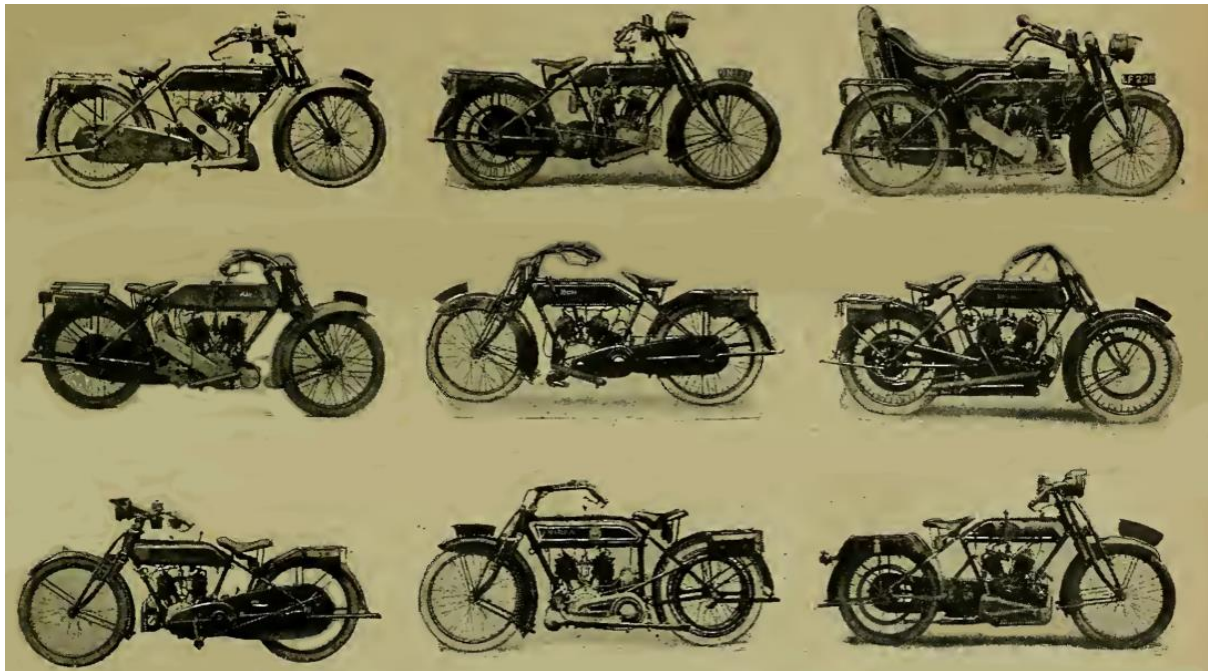


“IN THE PAST IT WAS, WE FEAR, the habit of many manufacturers to look upon the British Isles only as their market, and to regard our Overseas Dominions and foreign countries simply in the light of places where some of their surplus stock might find purchasers...The manufacturer should regard the whole world as his market, but chiefly, of course, should he look to the British Empire...Special machines must be designed which are really suitable for the conditions obtaining in the newer and less fully developed countries...The British motor cycle is a very fine mount, entirely suitable for use in this and many other countries, but when the needs of those who live at ‘the back of beyond’, as it were, come to be considered, it will be found that the British machine—excellent as, it is for those purposes for which it was designed—will fall short of perfection, even when provided’ with heavier rims and spokes, larger tyres, and slightly more ground clearance, which items represent the usual alterations in the standard machine to convert it into an Overseas model...During the war the American manufacturers made very great headway not only in foreign countries but in our own Colonies. This was, of course, only to be expected in view of the abnormal conditions which prevailed, and the fact that America did not come into the war for so long a time after the commencement of hostilities. The British manufacturer, therefore, has much ground to recover; and we fear that he will never recover it till he has improved his methods out of all recognition. Let him study the American methods and improve upon them. At present the American is able to offer to British colonists better terms, better service in the vital matter of spares, and a machine which in many respects is more suited to his requirements than the British article...There are hundreds, nay thousands, of men in our Overseas Dominions who from a patriotic feeling alone would buy the British article in preference to any other, provided that they were assured the maker would continue to take a real interest in their machines, and that they could purchase spares without having to send to England and waiting many months for their delivery...The number of motor cycles exported during 1913 from the United Kingdom to other parts of the British Empire was 11,302, and had not the war intervened the 1914 figures would have been much larger, but we want to see the figures increased tenfold before feeling satisfied that home manufacturers are even beginning to approach the



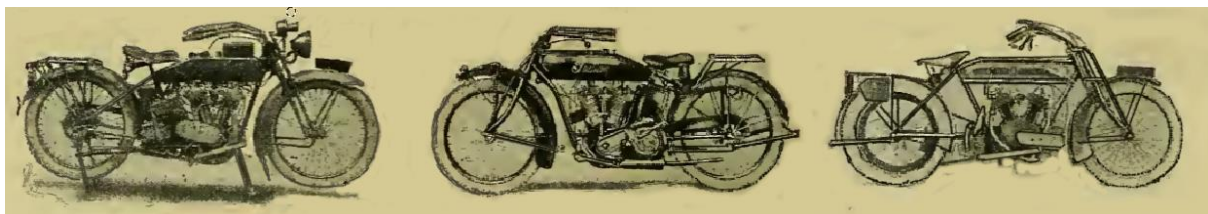
“Representative British ‘singles’ which are popular Overseas: The 4hp Norton, 4hp Triumph, and 4¼hp BSA.”

position in the markets of the British Empire which they are rightly entitled to occupy...During the six years ended 1917, New Zealand imported 13,606 motor cycles, or one for every eighty-one inhabitants, white and aboriginal—truly a remarkable proportion! Out of every hundred machines seventy-five were British, but this proportion has diminished greatly, for, while in 1913 the proportion of American machines imported as compared with British was as one is to twenty-five, in 1916 it had changed completely, British and American imports being practically equal, and in 1917 it was almost three to one against the British...One machine to every 224 inhabitants was the average in use throughout Australia in 1918. In 1917 America supplied 75% of the new motor cycles imported by Australia...The wealth-producing country of British South Africa easily heads the list of our Overseas Dominions so far as motor cycling is concerned. Figures for the five years ended 1917 show that motor cycles were imported into South Africa at the rate of one to every seventy-four of the white population. Our American friends have had a good picking of the South African market during the war, as their proportion of the trade in motor cycles and parts, which in 1913 was under 3%, rose steadily year by year and reached 54% in 1917...In India, Ceylon, and Malaya the demand for motor cycles comes not only from the white population, but also from the wealthy and educated natives, and represents a potential market of great value. Over a period of three years, from April, 1914, to March, 1917, British India imported 5,504 motor cycles, American machines making no headway until 1916-17, when 525 were imported as against eight in 1913-14. Nearly 190,000 miles of roads are maintained by public authorities throughout the country, a third of which are metalled and in fairly good condition. The American share of the motor cycle imports into Ceylon jumped from just over 10% in 1915 to 60% in 1917. There were 1,130 motor cycles in use in the Federated Malay States in 1916, which number has undoubtedly increased by now...From the point of view of numbers of motor cyclists, the Dominion of Canada is the most backward of all the daughters of Britain. Canada has some of the finest roads in the world, one motor car to every thirty inhabitants, but only one motor cycle to every 916! ”



“Nine British twins suitable for Overseas work: 8hp Sunbeam, 8hp New Imperial, 8hp Matchless, 5-6hp AJS, 5-6hp James, 8hp Enfield, 5-6hp Rover, 6hp New Hudson, 8hp Royal Ruby.”

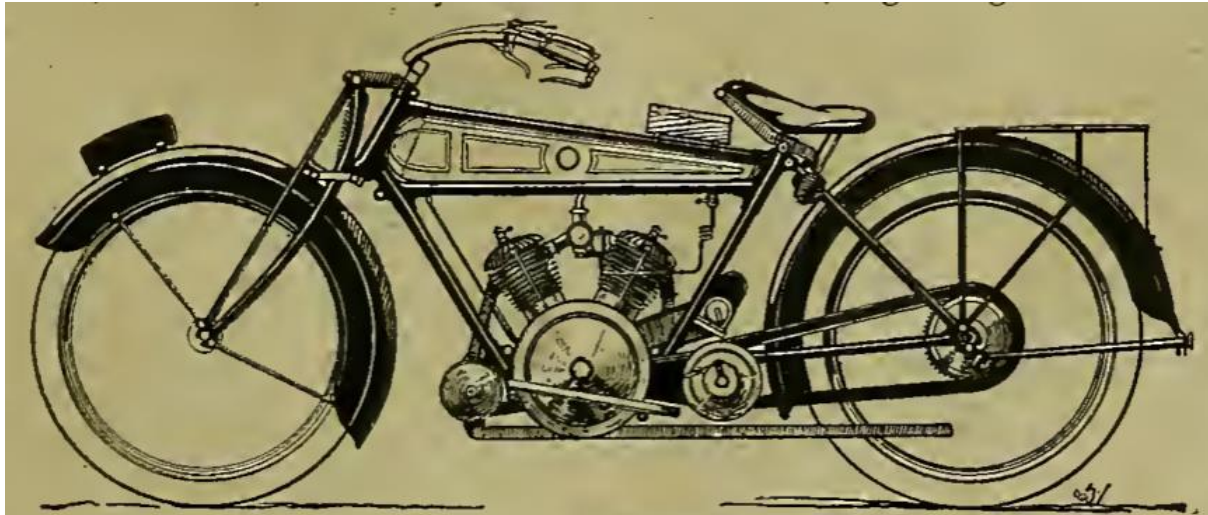
“THAT OVERSEAS TRADE must be more seriously considered has long been acknowledged by the thinking men in the trade but, in many cases, not only new methods are needed, but new models also. Too long has the British manufacturer done business with a ‘Take it or leave it’ attitude. The popularity of the American machines in the Colonies is proof positive that either our methods or our models—perhaps both—have been inadequate. It seems strange that after the makers had been deaf to the demands of the Overseas markets on such points of ground clearance, it required a buying commission from Russia (which country probably knows less about motor cycles than any other) to induce the makers to adapt their machines to ‘foreign’ requirements. However, quite a number of ‘Russian’ models now exist, which are more suitable for the Overseas trade generally than most machines which were produced before the war...The British maker has a chance now to meet his competitors in the Overseas markets.



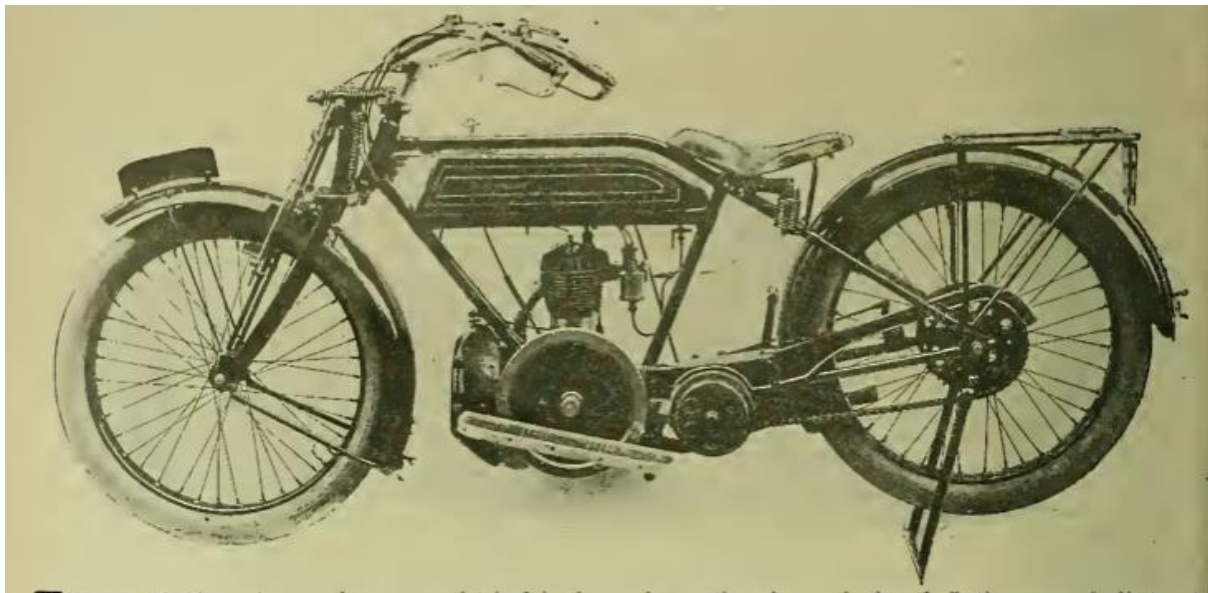
The two main contenders for Britain’s Overseas trade: 7-9hp Harley Davidson and 7-9hp Indian. And “The 6-7hp Overseas, made by a firm specialising in Overseas business.”

BLACKBURNE EXPANDED ITS RANGE to four proprietary engines: two singles (2¾hp 348cc and 4hp 499cc); and two twins (8hp 998cc and 10hp 1,100cc). They all featured

detachable heads and outside flywheels; the twin were available with air or water cooling. Three complete bikes were also offered: 2¾hp with two speeds and chain/belt drive; 4hp with three speeds and all-chain drive; and 8hp with three speeds, all-chain drive and QD wheels. They all came with Brampton Biflex forks.



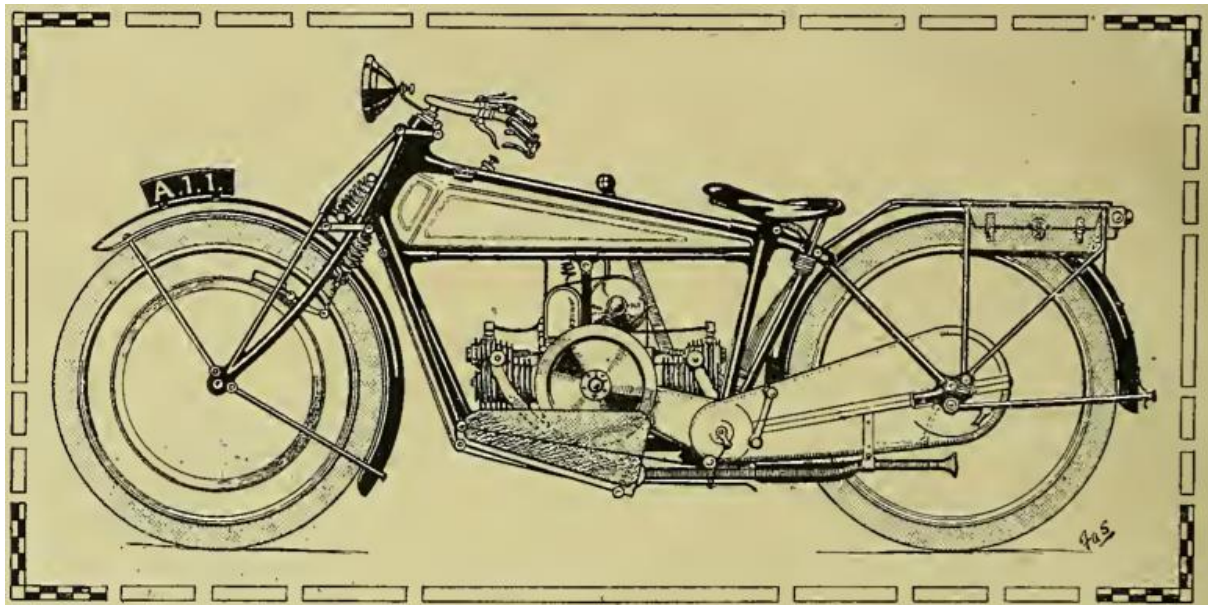
Blackburne works manager JH Holroyd came up with what would come to be known as a concept vehicle based on the firm's 8hp twin. It was intended for sidecar use.



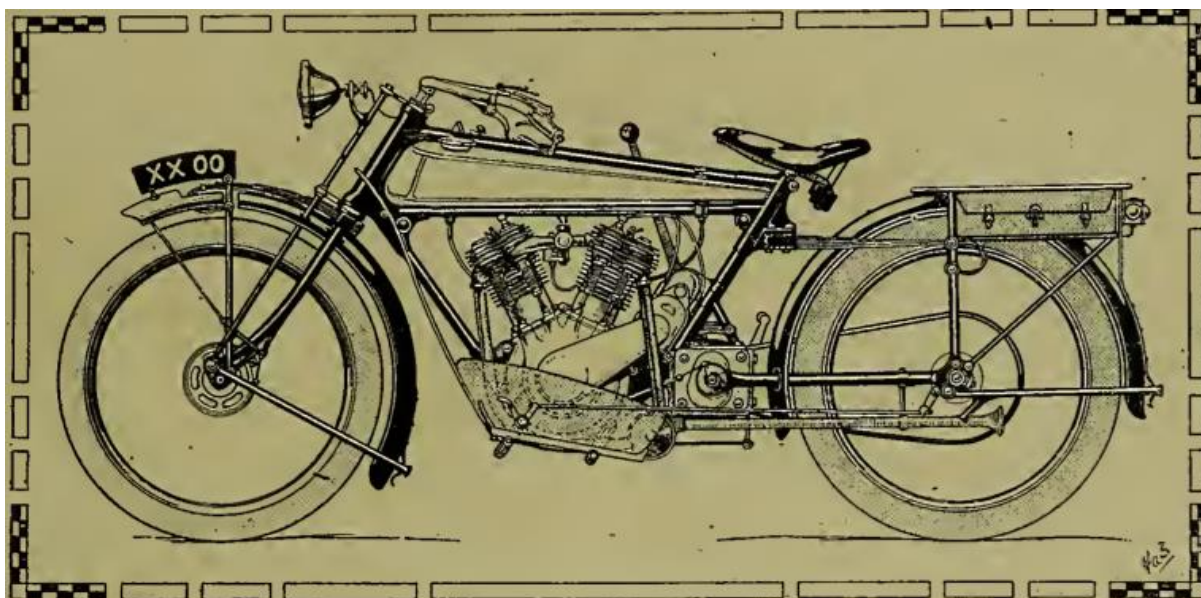
“The 4hp 499cc Blackburne: From its solid construction, its excellent finish, and sound design, the 1919 Blackburne should find favour with a large coterie of solo riders at home and abroad.”

THOUSANDS OF MOTOR CYCLISTS responded to a plebiscite in *The Motor Cycle* designed to establish once and for all the ideal specification for the motor cycle so many veterans had been dreaming of. There were two classes: solo and sidecar. It came as no surprise that the ideal solo was was a 3½hp short-stroke 500cc four-stroke. The flat twin led the field with 40% of the vote, pipping the one-lunger (36%). Third in line was the V-twin (13%) followed by the four-pot (5%) with ‘less conventional types’ such

as vertical twins, 90° twins a triples favoured by 6%. The classic 500 was first choice (32.7%), followed by a 550 (21.5%) and 600 (9.8%). The 350 and 650 options both scored 5%; 3.8% voted for a 300 and a hardy few opted for big-twin solos up to 1,100cc. The spec also included a four-speed gearbox, multi-plate cork-insert clutch, all-chain drive, sprung frame, Druid forks, V-rim front brake, drum rear brake and dynamo/battery lights. The ideal sidecar hauler was an 8hp long-stroke 1,000cc four-stroke V-twin with a three-speed gearbox, single dry plate cork-insert clutch, all-chain drive, sprung frame, Druid forks, contracting front brake, drum rear brake and dynamo/battery lights. A lot of riders wanted 500-600cc dual-purpose bikes suitable for solo or sidecar work. The 1,000cc twin was an easy winner in the sidecar stakes with a 31% vote. Runner up was the 750 (19.85), 600 (7.2%) and 550 (6.8%). Only a few sidecarrists called for engines from 1,000-1,500cc, but 16% favoured the 800-950cc class and 5% were happy with a traditional 3½hp 500. V-twins headed the wish list of sidecar outfit engines at 35%, ahead of flat twins (28%), fours (20%), singles (16%) and 'other' (1%). Two-stroke engines weren't popular: 94% of solo riders and 96% of sidecarrists wanted their strokes to come in fours. A few forward-thinking types were interested in unit construction and hydraulic or magnetic transmission.



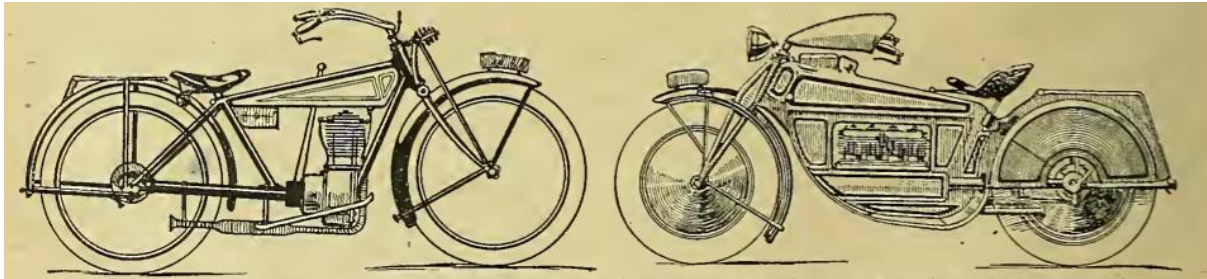
The 'ideal' solo machine—a 3½hp 500cc, four-speed, four-stroke flat twin with all-chain drive.



The 'ideal' sidecar machine—an 8hp 1,000cc, three-speed vee-twin with all-chain drive.

“ALL SORTS OF CHANGES have been predicted with regard to the motor cycle of the future, but, viewing the outlook both from the points of view of riders and manufacturers, there is no particular reason to think that the old order, as regards the variety of machines produced, will be in any way restricted...stimulated, perhaps, by keener competition...we shall arrive at greater extremes than in the past. We shall have the Rolls-Royce among motor cycles and the Ford—the first-named being a machine produced for the ‘select few’, and the latter, rendered not only possible but certain by the many changes that have taken place in the manufacturing world, the necessity for increasing output and finding adequate employment for our huge factories, etc, produced for the multitude...Recently I have conversed with manufacturers who are enthusiastic upon concentrating on this model the luxury solo mount...His idea is to produce a really hot stuff flat twin, which is to possess every possible refinement in the way of modern equipment, etc—mechanical lubrication, electric lighting, and a standard of finish which will place it in a class to itself. No expense is to be spared in order to obtain the zenith of comfort, tractability, speed, and durability, and the price of the finished article will most assuredly debar it from anything but a very select market. This price, however, is to include a first-rate system of service and a very generous guarantee—though the latter will automatically become void should the owner attach a sidecar! You buy the machine, if in difficulties you wire for a mechanic—indeed, the Rolls-Royce system is to be followed throughout within reasonable limits—but if you attach a sidecar you become an outlaw, beyond the pale of sympathy and support! It is difficult to prophesy as to what form the Ford of motor cycles will take...whatever cc may be chosen, the Ford motor cycle, like the Ford car, must have something more than cheapness to recommend it. It must be handy, reliable, and foolproof, these features being infinitely more necessary here than in the more costly type, because scores of fools will buy it. Like the Ford car, it must be capable of enduring neglect and hard

usage—suitable for commercial requirements and all-weather riding. There is an immense demand for an ultra-cheap lightweight, capable of going anywhere at its own speed, and, above all things, cheap to run.”



“A quantity-produced model of the Ford type and a super de luxe model on Rolls-Royce lines. The cheap proposition is a single-cylinder, two-stroke, shaft drive, two-speed, flywheel magneto, and the simplest frame construction. There are no limits to the scope for elaborate finish on the aristocratic type, but it is difficult to get beyond the best accepted constructional details.”

“THE SECRETARY OF THE ACU informs us that he greatly regrets the delay which has recently occurred in his office in dealing with queries relating to petrol licences. This has been unavoidable, owing to the fact that the Petrol Controller’s Department has temporarily run out of the correct forms upon which application must be made.”

THE FEDERATION OF AMERICAN MOTORCYCLISTS ceased operations. The Motorcycle & Allied Trades Association (M&ATA)’s Education Committee stepped into the breach by registering riders and clubs and supporting motor cycle activities. Its Competition Committee began supporting the annual ‘Gypsy Tours’ and took over the FAM’s racing responsibilities, issuing national championship medals. *The Motor Cycle* was certainly at the heart of British motor cycling; in the US the relationship between press and trade could not have been closer. WH Parsons, chairman of both the M&ATA’s Educational and Competition Committees, was also editor of *Motorcycle and Bicycle Illustrated*. In an editorial he commented: “This plan of registration is not, strictly speaking, the organization of a rider’s association, though it is expected that this will be the foundation upon which eventually will be built a strong and efficient rider organization which will be affiliated with the M&ATA for competition control. The preliminary plan of registration at the nominal fee of 50 cents is the affiliation part of the program. When a large list of registered motorcyclists has been obtained, it will then be possible to perfect the independent association, with the registered motorcyclists as the chartered members.”

THE FRENCH MOTOR CYCLE MAGAZINE *L’AUTO* appealed to French manufacturers to “wake up and turn out machines of the same type as those used by our English and American Allies...If ten people in France buy uncomfortable motor bicycles without change speed gears, to start which they must be acrobats and run 100 yards, there will

be 1,000 buyers who will interest themselves in the reliable complete motor cycle constructed for the practical purchaser.”

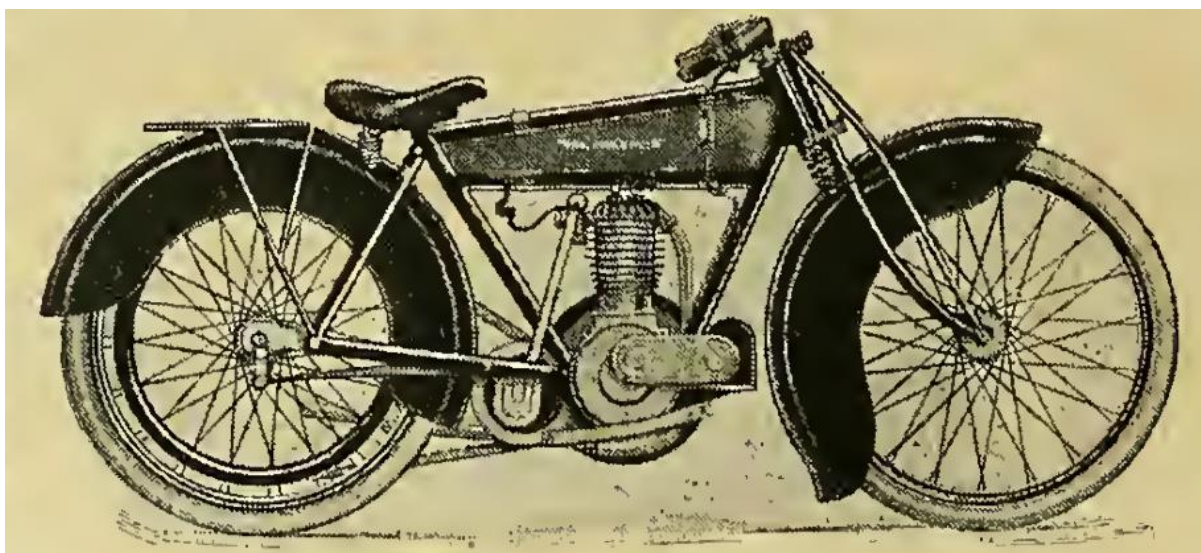
“ONE OF THE SEVERAL ITALIAN MAKES of motor cycles which has been used extensively by the Italian Army during the war is the Della Ferrera...We are informed by our Milan correspondent that these machines will be made for the public this year, and that the Italian motor cycle trade—a rapidly growing industry—will make a great effort to capture the greater part of their home trade. This fact, coupled with the probable early arrival in Italy of the new American models, will make it increasingly difficult for the British manufacturer to pick up his pre-war trade, which was very flourishing. Several new firms have announced their intention of entering the motor cycle trade and many interesting machines, including at least two flat twin and a two-stroke, are under consideration.”



The Della Ferrera 1,006cc twin and 636cc single both used US-made Dixie magnetos, four-speed countershaft gearboxes with two pairs of fully enclosed primary and secondary chains, dry plate clutches, kick-starters, rear drum brakes and rear-hub rubber transmission shock absorbers.

“THE UNIT SYSTEM: The Integral Engine—Gear Box and Belt Drive. In any design of any machine there appear to be three periods. (1) The simple idea developed on crude lines. (2) The fitment of various devices which experience demands as essential, but which are frequently added in a disconnected sort of way. (3) The ‘clean sweep’ of the existing details, a unification of all the essential features, and the embodiment of them in such a way as to make a design thoroughly sound. The motor cycle at present appears to be in stage 2, particularly in regard to the transmission problem, on which depends perhaps the success of the machine. The need of the change-speed gear has given rise to a remarkably diverse development, but there has been no genuine attempt to establish a modern, unit system applicable to all sizes of machines. The unit system is a step to secure the true alignment of gears, under all conditions, of the change speed gear system. The combination of the unit system with a properly designed belt drive would result in a much lighter machine per hp, especially in the larger machines, and this is a very desirable aim to keep in view.”

IN JANUARY *THE MOTOR CYCLE* PUBLISHED its first peacetime buyers' guide, included predicted delivery dates as factories completed government contracts and shifted back to peacetime production. These ranged from a rather smug "Delivery commenced" (Triumph, Excelsior, Douglas) and "January" (Allon, Ariel, LMC), via an optimistic "shortly" (Humber, New Imperial, Norton, Sunbeam) and "in a few weeks" (Velocette), to "Orders carried out on rotation as far as possible" (BSA), and a blunt "May" (ABC). "So far, the AJS has the distinction of being the highest-priced motor cycle," said the Blue 'Un, "while the Norton Big 4 leads the singles." The contenders were: ABC, AJS, Allon, Ariel, Blackburne, British Excelsior, BSA, Douglas, Enfield, Humber, Levis, LMC, Matchless, Metro-Tyler, New Imperial, Norton, P&M, Radco, Royal Ruby, Sparkbrook, Sunbeam, Triumph and Velocette. Within a few weeks they were joined by Abingdon, Bradbury, Calthorpe, Connaught, Coventry Eagle, Diamond, Dot, Ivy, Ixion, James, Rover, Sun-Vitesse and Wooler. The first post-war debutante. Coulson, with a posh address in Piccadilly London W1, opted for a 2¾hp 341cc four-stroke Blackburne engine. "This will be a mediumweight machine of medium horse-power, and one capable of going anywhere. It has been generally found that a horse-power of 2¾ is the most practical power the motorcyclist can desire. It will not give him excessive speed, but will enable a good average to be kept up and any hill to be climbed...This engine is a small replica of the well-known 3½hp Blackburne engine...combined belt and chain transmission will be fitted, while the gear box will be a two-speed Jardine...the rear portion of the machine will be provided with leaf springing, while the front of the machine is suspended on Druid Mark II forks...the top tube of the frame is of the sloping variety, and the machine has a distinctly racy appearance...the stand is fitted just behind the bottom bracket on which the countershaft Albion two-speed gear box is suspended. It is being brought out by Mr FA Coulson, formerly managing director of the Wooler Engineering Co, and it is expected that between 750 and 1,000 machines will be made during 1919. Already, half this number is booked up."



The Coulson lightweight had a Blackburne engine and what came to be called a centre stand.

BY THE START OF 1919 PETROL was back on the civilian market. Licences were still required for the purchase of 'motor spirit' but these were now readily available to all. Rationing had not yet disappeared; the allowance was six gallons a month for solos and 10 gallons for combos, or up to 16 gallons for business purposes. The Petrol Pool Board, which had co-ordinated fuel supplies, was closed down at the end of January but the Board of Trade retained its price control over petrol and petrol products.

"THE PUBLIC SCHOOLS MOTOR CYCLING CLUB: Applications for membership are still reaching the temporary hon sec Lt HP Browning, RUA, AA Gun Station, Virginia Water, Surrey. Col Lindsay Lloyd has consented to be president of the club, and in a few months' time it is hoped that a sufficient number of applications will have been received to enable Mr Browning to call a general meeting and restart the club. Mr Browning will be glad to hear from members of the leading Public Schools who would care to join the club, and it is hoped by the Easter holidays to have the club completely re-established and a programme formed."

"A MOTOR CYCLE CLUB FOR EALING AND DISTRICT: It is proposed to form a motor cycling club for Ealing and District. It is the intention of the promoters to maintain a vigorous and novel programme, including an entirely new form of inter-club team competition, which, it is hoped, will greatly stimulate club activity. The social side will be well catered for, the club having had the offer of the use of a large club room gratis. In this connection, club runs will be eagerly looked forward to after the enforced idleness of the past four years. These runs will be combined with a social event, and will give members an object in riding. Lady riders are invited to join, for it is felt that the lady members will be well represented by ex-RAF motor cyclists and others. The club will be affiliated to the Auto Cycle Union, whereby members will become entitled to the

privileges conferred by that body. Every rider who is interested should write to Mr S. PL Brown, 25, Ormiston Road, Shepherd's Bush, W12."



"A meet of motor cyclists on a recent Sunday at Owler Bar. This rendezvous was a popular one for Sheffield riders before the war."

BELGIAN BICYCLE AND MOTOR CYCLE manufacturers formed a society for their protection and to further the manufacture and export of Belgian machines."

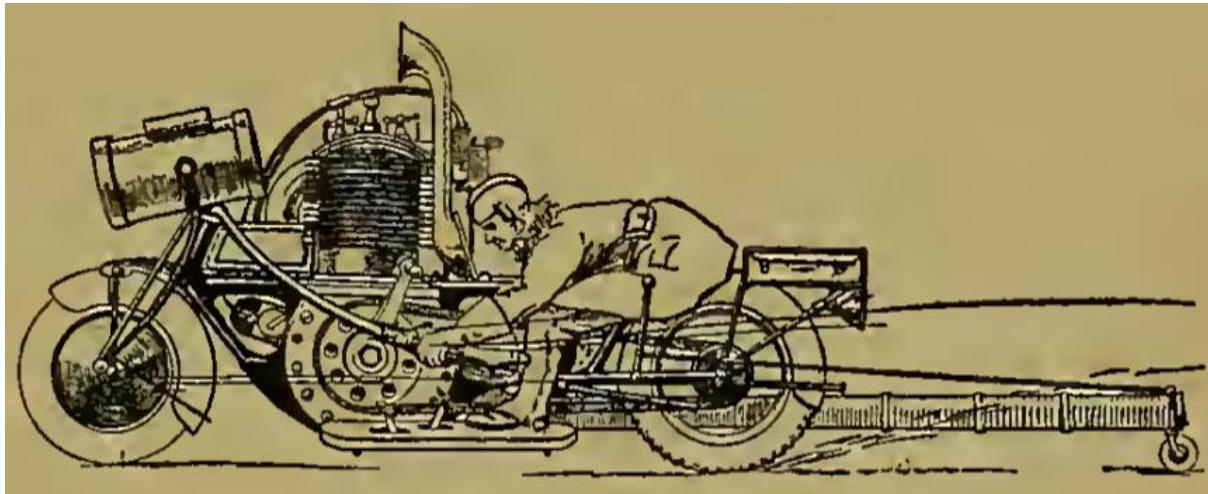
"SIR,—MR HARRY WALKER, A WELL-KNOWN representative of British interests in the motor trade in Barcelona, is now on his way over to this country. Mr Walker is particularly anxious that British manufacturers should make a prominent exhibition of their productions at the motor car and motor cycle show to be held at Barcelona next March, to which you referred on December 25th last, in face of the certain and intense competition of manufacturers in enemy countries. Spain is truly neutral in the matter of commerce, and the manufacturer who shows most enterprise—be he British, Austrian, or German—has an equally favourable opportunity of securing the business of the country.

THE SPHINX MANUFACTURING CO"

"SIR,—I AM SENDING A FEW SUGGESTIONS made by a few knuts round the fire one evening during a discussion on 'Which type?' I have tried to picture the sort of type it would be if some of them were adopted. Unfortunately, I have had to leave more than half of these comforts out, but I have tried to show the principal ones. You will notice that the big single seems to be a favourite, with its long exhaust pipe, which has a joint in it to allow of easy cornering; also there is a small wheel on the handle-bars for the same purpose. The periscope would be useful, as well as necessary. A good searchlight must be fitted; this one takes 12 amps 60 volts, similar to those we use in France. The

generator is fitted at the rear of engine, under the oil tank. The machine is geared 1-4, not 4-1, so as to be able to get a good burst of speed. The back tyre should also lend itself to this end, and also to ensure good hill-climbing. Overhead valves are fitted, also overhead carburetter. The question of petrol and oil capacity seems difficult, but this is a detail. It is a free engine, and there is possibly a kick starter on the other side. You must excuse us getting like this, but we have not had a crash for two and a half years, and we are beginning to dream dreams. Still, we are thankful for small mercies, as the 'Blue 'Un' turns up week by week, so we have our rides on paper.

(CPL) R CHILDS, RE."



After four years of war the boys had a clear idea of what they wanted.

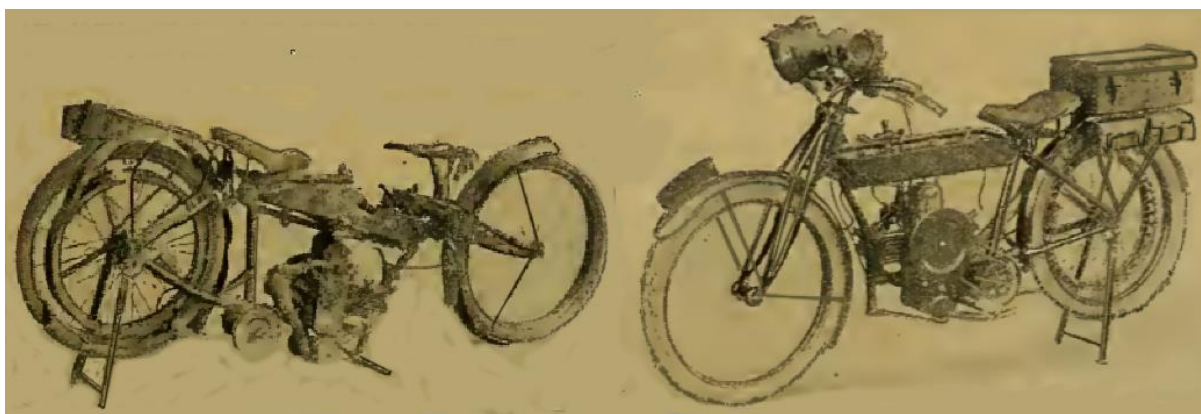
RIDER TROWARD & CO OF HAMPSTEAD High Street, London N3 boasted in an advert: "Remember our three terms of dealing, of which not one has yet been emulated by any other firm: (a) Three days' free trial. Your money back at the end if not satisfied. (b) Three weeks' option of exchange. Your machine taken back, and full price allowed, if wished, in exchange for anything else. (c) Three months' guarantee—the same guarantee that the makers give."

"PRICES OF MOTOR CYCLES GENERALLY ARE 25% in advance of those of 1914, and there is a tendency among motor cyclists to consider them too high. Without any desire to make a plea of justification, we are, nevertheless, constrained to consider the present position in no way inconsistent with the times. As much as we wish to see motor cycles offered at pre-war prices, we are afraid it is more than can be expected...we know material and labour are up at least 100%...everything considered it does not appear that a 25% increase over pre-war prices is at all exorbitant, especially when it is remembered that in purchasing everything today the British public is called upon to pay advances in price considerably more than 25%."

"IT MAY BE PERFECTLY TRUE," IXION remarked, "that an up-to-date engine of 350cc or so with a suitable gear box will do its mile a minute and climb any hill, but until human nature is regenerated some of us will ask for more than this. An ex-RAF pilot,

accustomed to 150mph, will not be thrilled by slamming open his throttle with about 3½hp loaded up to about 4cwt. There will always be a small but select market for a sheer 'hogbus', capable of climbing at terrific speed and of furious acceleration on the flat. We have yet to see an ideal mount of this character. In theory it should add its special hallmarks to the usual desiderata of light weight, comfort, and reliability. In practice such speedirons are generally very uncomfortable and absurdly heavy. They are not unreliable in the ordinary sense of the word; but like most high-bred animals they are flighty and capricious. The 60 or 70mph which may represent their best gait is not always on tap. I am not sure that owners want it to be. In this class at any rate the rider rather enjoys chasing round in search of a lost 100rpm or so. Beyond question the single-cylinder types of 'hogbus' have been worked up to a higher pitch than their twin-cylinder rivals. The TT Triumph, Rudge, and Norton may challenge comparison with any invaders in this class. But where is the standardised 7hp British twin hogiron? I know some very fascinating ohv big JAPs have been put out by various makers, but I think the market would stand a little pushing in such machines if they were developed on the lines indicated. Several American machines, especially the short-wheelbase Henderson, were attracting many of our riders in 1914. I admit there are distinct objections to the unrestricted sale of very fast machines, but if they are going to be sold let them be British."

"HUNDREDS OF WAR-WORN AND DISCARDED MOTOR CYCLES, fit and unfit, are lying on Kempton Park Racecourse more or less exposed to the weather, illustrating the terrible wastage of material, labour, and money which war inevitably forces upon a people...lorries packed with damaged motor cycles are still arriving...two-thirds of the number are usually fit for repair, and of these many—mostly of non-standard makes—are placed in the motor cycle sales park. Non-standard makes are those which are neither Douglasses, Triumphs, P&Ms, nor Clynos, but some such types as Sunbeams, AJSs, Rudges, Rovers, and other motor cycles made by well-known manufacturers which have been on home service...New motor cycles in crates, ready for distribution, are placed under cover in open-sided sheds, and are not too well protected from the weather, as it can be seen that the outside machines are exposed to driving rain or snow, and, even though grease is liberally applied to the bright parts, some evidences of rust are apparent. Machines which have been repaired in the army workshops are placed in crates and covered with tarpaulins. Motor cycles awaiting repair are in an open field, and as many as possible are placed under tarpaulins, but a vast number of unfits are without any protection whatever. It is the sight of this huge number of motor bicycles left day and night, winter and summer, exposed to all the vagaries of an English climate, that has led to so much criticism—in defence of this it is argued that most of them have been



“As they reach the depot and as they emerge: A Douglas as it is clumped at a salvage repair shop in the West of England, and one of the repaired machines—rebuilt, enamelled, equipped, and tested for the road.”

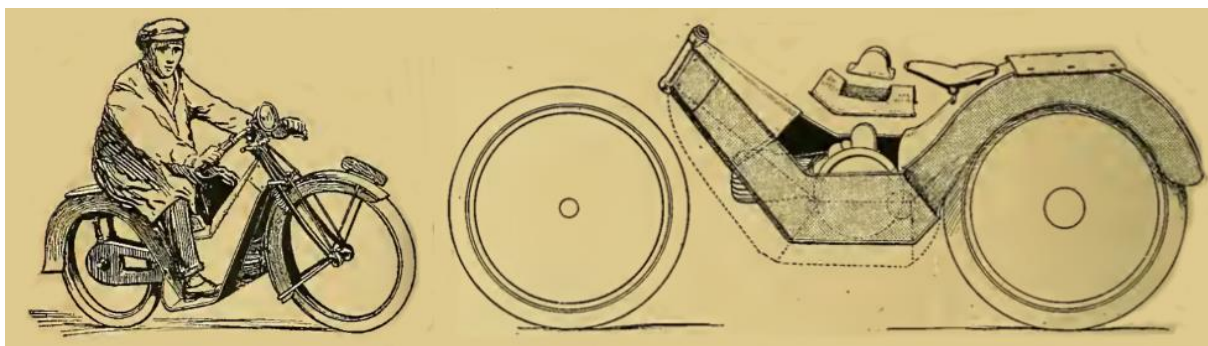
rescued from the battlefields of Flanders and elsewhere, where they have been exposed to rains other than and besides those of heaven. They have often been literally buried in the ground, and so a month or two's extra exposure will do them no further harm. Unfit motor cycles, as they are called, are those which have suffered severe accidents, have been run over and ditched, or have been hit and severely damaged by shell or machine-gun fire...The disposal of army motor cycles is in the hands of the Surplus Government Property Disposal Board, 6, St James's Square, London, SW1...machines in the sales park include 24 fit Ridges, 86 fit Zeniths, and numerous unfit machines, of which we may mention 17 Sunbeams 96 Scott sc combinations, 36 Scott solo machines, 99 Zeniths, 23 Premiers, and 33 Rovers.” The question is—when will the Government move? The market is excellent now; second-hand prices are higher than they ever will be again, and, despite arguments to the contrary, the goods are depreciating. A few months hence, when new motor cycles will be available, second-hand prices may drop, so no useful purpose can be served by further delay...the motor cycles are bought from funds supplied by the taxpayer, and he rightly demands that they should be disposed of in the most advantageous manner. The Disposal Board is alive to what is required, but can get no answer from the Ministry of Supply, and so it seems that this body is really to blame.



Left: “Unfit Army motor cycles, the majority of which will require a great amount of work before they are fit for the road. The machines were left in the state shown, the tarpaulins

inadequate to protect them from wind and weather.” Right: “A shell-battered motor cycle which might well form one of the exhibits in the projected National War Museum.”

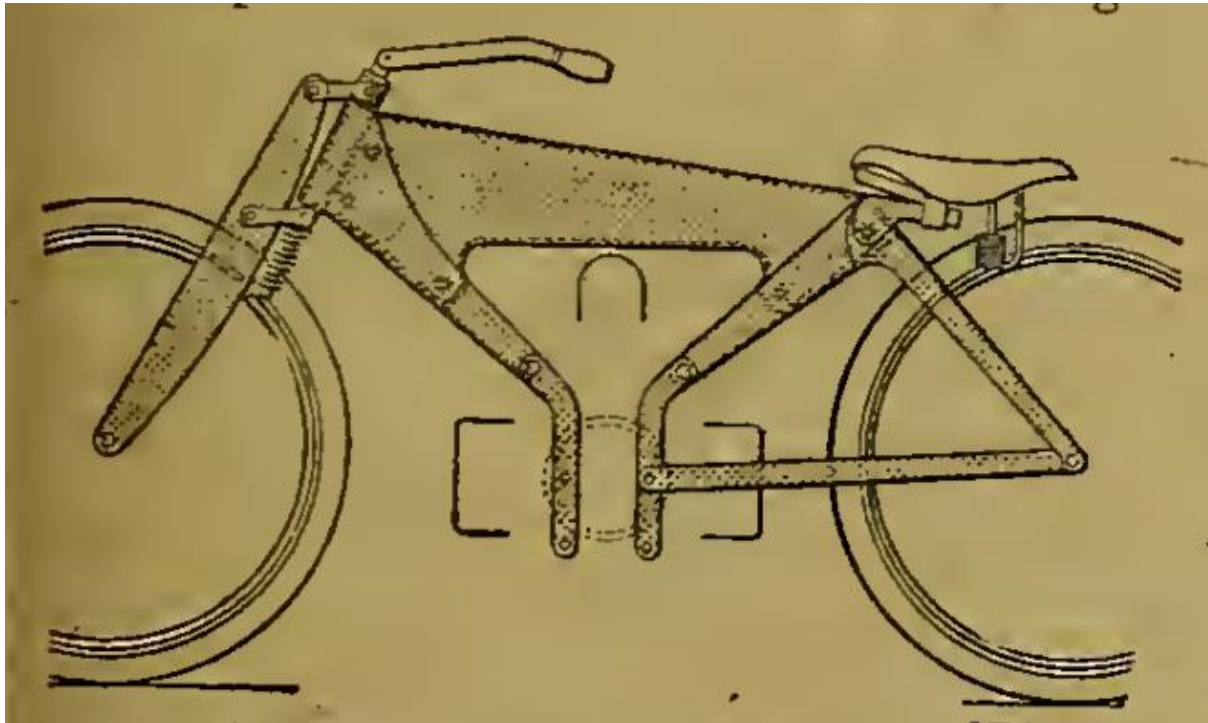
“THE PRESSED STEEL MOTOR CYCLE FRAME has long been regarded as an ultimate development, but until recently there has been no particular tendency in that direction, in spite of the many advantages which, theoretically, it presents. We have, however, foreseen that the war-time experience of several of our motor cycle manufacturers with engine plates for aeroplanes would influence motor cycle frame design. Therefore it is of especial interest to find the makers of the Diamond motor cycles, DFM Engineering Co, Ltd, of Wolverhampton, well advanced in the production of the first models of a genuine tubeless frame constructed entirely of steel pressings...the engine unit also is unique. The frame consists of two side plates carried right through from the head, downwards, to form part of the engine carrier, and, upwards, over the back wheel, to form strengthening valances on the back mudguard. The two plates are connected behind the head by (1) a segmental plate covering the petrol tank, (2) by the tank itself when in position, (3) by a removable plate over the engine, and again (4) by the back mudguard. The whole is completely stiffened by the engine unit baseplate, which is bolted in from the under side. The engine unit is complete in itself so complete, in fact, that when the chain and petrol pipe are disconnected and the baseplate unbolted, it can be entirely removed from the frame, carrying with it the two-speed gear box, magneto, silencer, and carburetter. The engine is of the four-stroke type and of 427cc capacity, and is placed horizontally with side-by-side valves on top of the cylinder. The machine will be suitable for riders of either sex without alteration, and will be an undoubted advance on the point of cleanliness. The engine is completely shielded from the rider, and an ample dashboard and leg shields can easily be fitted, rendering the machine as nearly weatherproof as possible.”



“The frame design of the new Diamond motor cycle. Pressed steel is entirely to supersede steel tubing in its construction.” [*The Diamond bears an uncanny resemblance to the LE Velocette that was in production from 1948-70 and was the archetypal ‘Everyman’ motor cycle.*]

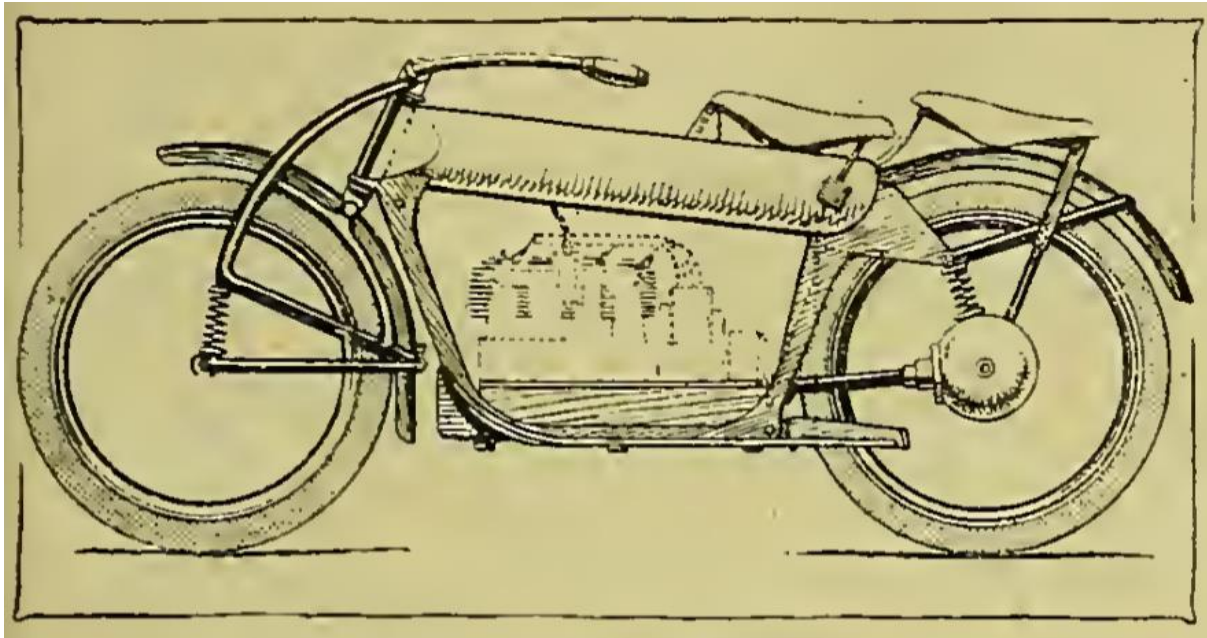
“MR FW BARNES, WHOSE NAME IS FAMILIAR to all who follow the sport and pastime, seems to have gone beyond the ‘idea’ stage, and has succeeded in designing a frame which, while being entirely unorthodox so far as method of construction is concerned,

is by no means unsightly. The main or body portion of the frame is formed of two metal stampings welded on their adjacent edges. This portion is shaped at the front and rear ends to provide seatings for the two diagonal members of the frame, at the lower end of which the engine is intended to be fixed. The fore bracket is formed of a metal plate bent to form the steering head. The rear bracket is bent around the rear end of the tank or body portion in a similar way. The front fork, too, is intended to be of pressed steel construction, while the rear stays may follow the same principles.”

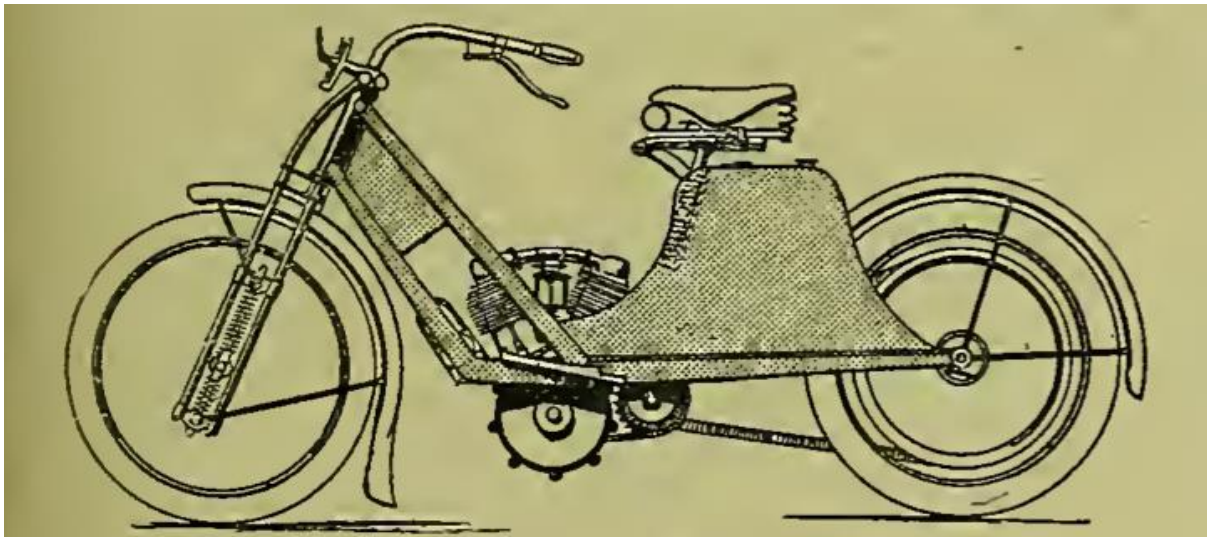


Freddy Barnes of Zenith, who already had the radical Bicar and Gradua transmission under his belt, patented a pressed-steel frame.

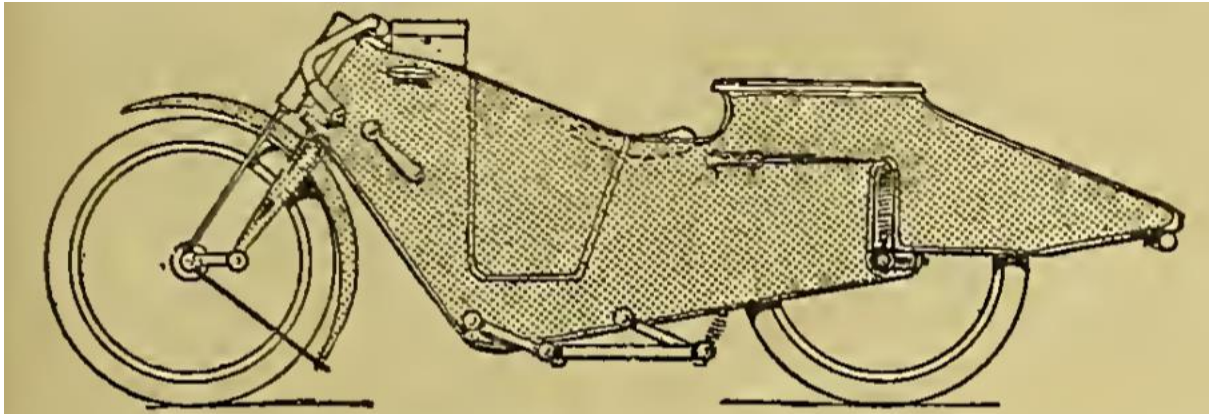
“MR PA FISKER, OF COPENHAGEN, Has undoubtedly gone a long way towards achieving the embodiment of the ideas of super-refinement enthusiasts in his patented motor cycle design. The principal features of the construction are the duplex pressed steel members carrying the engine and connecting the steering head and the rear wheel stays. The saddle is supported by the steel tank, which is attached to the steering head at one end, and the main frame plates at the other. The springing is of a decidedly novel type, comprising long lever arms and helical springs. The extra saddle, which is fitted in place of the more usual carrier, is also sprung. A great deal of attention has also been paid to mudguarding. The pressed members are stiffened laterally by wide footplates extending the whole length of the engine. The engine rests on another plate, which forms an undershield, so that it is practically enclosed in a mudproof cradle. A four-cylinder engine is shown fitted with a simple type of totally-enclosed shaft and bevel drive.”



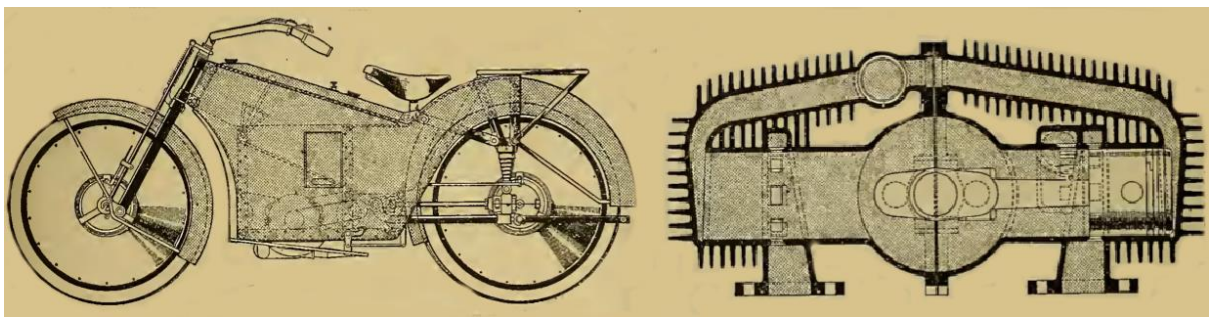
“A unique Continental design...the principle has much to recommend it.”



Just to put the record straight and enthusiast named Sarginson wrote in to remind the editor that in 1906 he and his chum Pilkington had won second prize in *The Motor Cycle's* Improvement Competition with this design for a pressed-steel frame.



Private RM Smith was awaiting demob in France when he sent *The Motor Cycle* his idea of “an ideal pressed steel frame...The only drawback is that the rider’s feet are inside the body, but this might be overcome by fitting a stand worked by a lever, so as to keep the machine upright when it stops.”

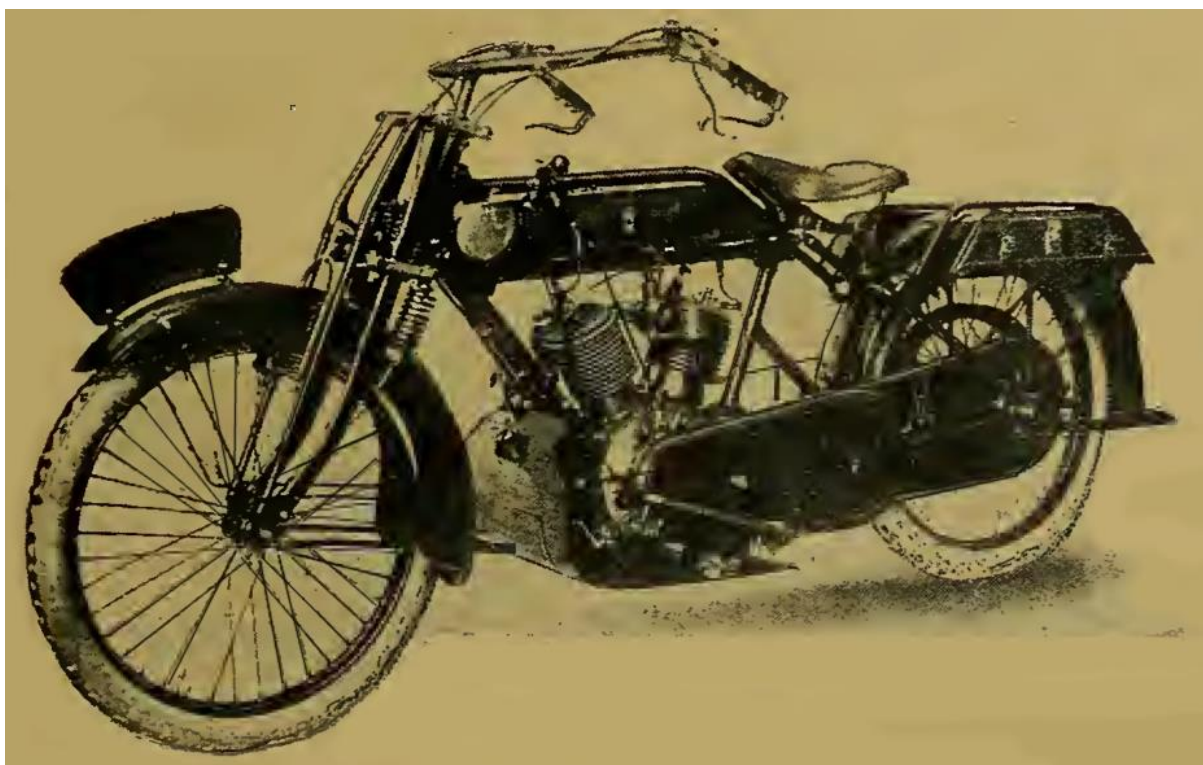


Pressed steel was to be used to good effect in the Black Prince, designed by EW Cameron of Doncaster. The frame comprised side panels connected by a sub-frame; the fuel tank was to be a structural member. Even the rear suspension used pressed steel in the form of conical volute springs. The engine design was radical: a two-stroke 345cc flat twin with a shared combustion chamber and a single sparking plug; it was said to rev to 4,000rpm.

“ACCORDING TO *OIL NEWS*, a petrol substitute has been discovered in Washington which, it is claimed, has greater thermal efficiency than the best petrol, and can be produced at less than half the present price...It is claimed that the new fuel is odourless, tasteless, and non-corrosive, leaves less carbon deposit than petrol, requires less air for combustion, and develops greater horse-power. The ingredients are cheap, and can be readily obtained, while the process of manufacture is simple.”

“NEW REX MODELS: Two new models will shortly be placed on the market by the old-established Rex Co. These will be a 4hp single with three-speed gear and chain-cum-belt transmission, and an 8hp twin sidecar with all-chain drive. Both models will embody several new features.”

“KEMPTON PARK IS NOT THE ONLY PLACE where disused Army motor cycles are awaiting disposal. A correspondent states that there are many at Grove Park, near Bromley, but here, unlike those at Kempton, the majority are under cover.”



Royal Ruby lost no time in getting back to full-time motor cycle production with its well-established two-stroke tiddler and an 8hp sidecar model based on the warhorse it produced for the Russians. The olive drab finish was replaced with a striking black red and gold-striped livery. Ample mudguards combined with large belly plates to keep the rider cleanish; the chains were fully enclosed and the stand could be locked down to deter thievery.

“NOT LONG AGO,” IXION RECALLED, I saw an aero engine, on which a very simple provision against air leaks at induction joints was employed. The pipes bolted to each inlet valve port were ‘stubs’, cut off short; and they were connected to the main carburetter manifold by rubber insertions, tightened round the pipe-ends by strong band clips. This flexible joint is cheap to make and overrules all small errors of alignment. I think it is worth adoption on certain multi-cylinder motor cycles, which have, bad reputations in this respect.”

“NOT A HINT: IXION wishes to convey his best thanks to ‘An Old Reader’ who sent him a box of cigarettes anonymously.”

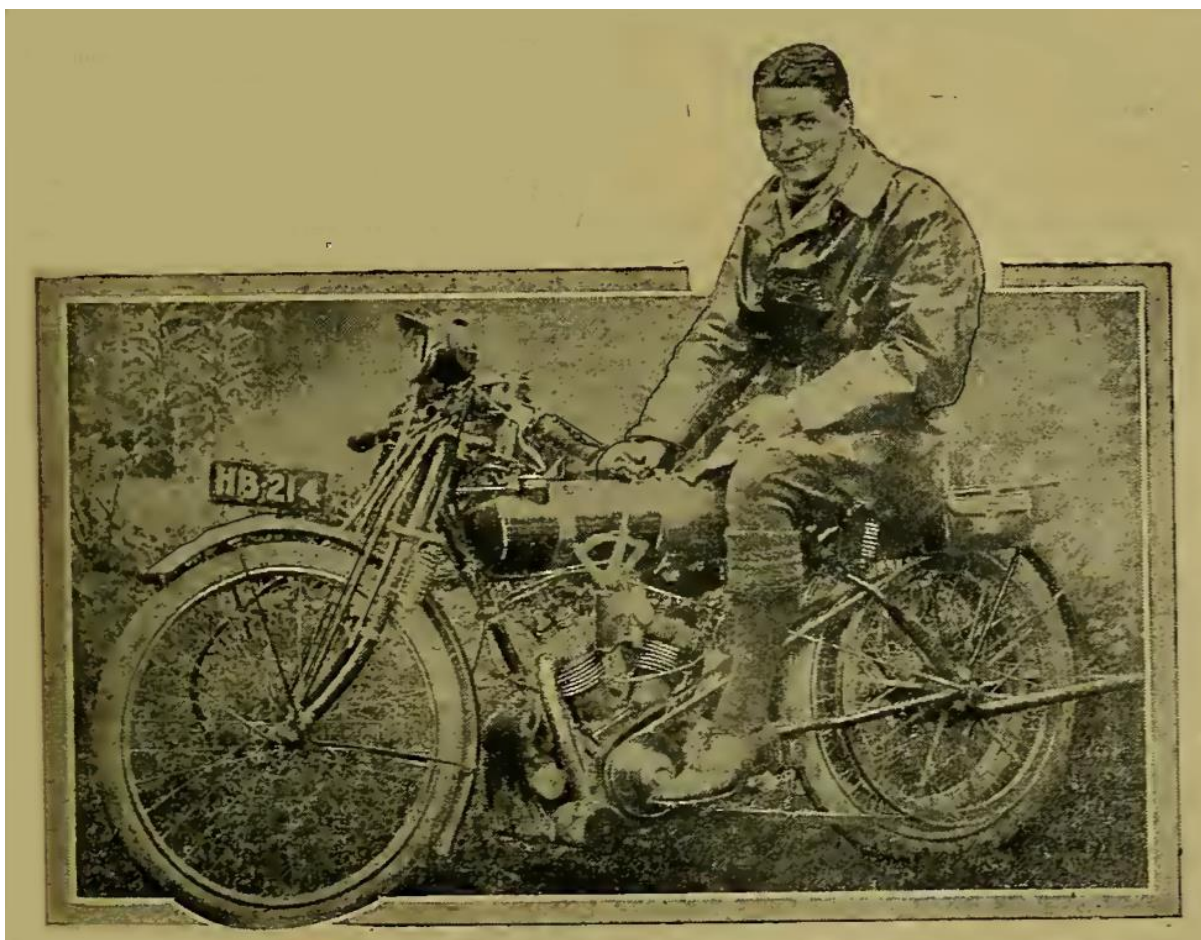
“BETTER EQUIPMENT: THERE IS A decided tendency among manufacturers to include better equipment in the specifications of their new models, and the policy of building down to a price appears to be entirely disappearing. Larger tyres and better saddles are almost general on machines which before the war were regarded as cheap lightweights.”



Magneto mounting positions and drives—chains, gears or shafts. Top row from left: Orbit, Diamond, Rover, Puch, “American single”, Quadrant, Pope. Middle row: Bat, Star, Grandex, Velocette, Triumph, Evans, Rudge. Bottom row: “American flat twin”, Rex, American Excelsior, New Hudson, “An eccentric (!) drive suggested by a reader”, Humber. “It would seem that the magneto has now reached a degree of weatherproofness that, from a mechanical standpoint, it is no longer necessary to consider its position.”

“WE ARE ASKED TO NAME THE INVENTOR of the exhaust valve lifter. This was Mr AJ Wilson, who, as a motor journalist, is known as ‘Faed’, Incidentally, Mr Wilson was author of the first edition of *Motor Cycles and How to Manage Them*, published from these offices.”

“MR DR O’DONOVAN, THE WELL-KNOWN speed specialist, is again in charge of the Norton Motors testing department, and he will be personally responsible for the riding in the firm’s engine speed tests on the Brooklands track. The certificate of the Brooklands Auto Racing Club will be given with each of the special engines for TT and BRS models, guaranteeing that the engine has exceeded 75mph for a distance of one kilometre. We are assured that there is just sufficient of the track left with a rideable surface to enable this testing to be carried out.”



“In spite of The thrills and excitement aviation offers, Lt Owen Edmunds, who made the first official mail flight between London and Paris, still retains his affection for the motor cycle. His mount is a 5-6hp overhead valve NUT-JAP, with three-speed hub gear. Lt Edmunds has made over 200 Channel flights.”



AT THE END OF JANUARY *The Motor Cycle* relaunched the Club News section that had been suspended ‘for the duration’. The last club news had concerned the proportion of members from various clubs who had flocked to the colours. With the survivors coming home committees were reforming and plans were being laid. Heading the list, quite rightly, was **The Motor Cycling Club**: “This year’s programme will include a despatch riders’ trial, the opening run, and the annual London-Edinburgh run, but further news of the club’s activities will be given later.” **Chester & DMCC**: “This club has not yet been reorganised, as most of its members are still away on military duty, including the secretary, Mr R Dutton, who is in East Africa.” **Birmingham MCC**: “The Birmingham MC

Club's 1919 programme promises to be a very attractive one. It is proposed that the local clubs may reopen motor cycling competitions by having an inter-club trial." **Mansfield & DMCC:** "Energetic motor cyclists in the Mansfield district should get together to revive the local club. The late secretary, Mr C Evinson, of the Portland Motor Co, advises us that he will not have time to devote to it." **Dublin & DMCC:** "Mr WH Freeman is again holding office as hon sec, and four road events for 1919 have already been decided upon. A reliability trial for the Dunlop cup will be held on Easter Monday, another trial on Whit-Monday, a twenty-fours trial at the end of June, and a two days' trial on the Saturday and Monday of August Bank Holiday". **Liverpool MC**

Redivivus: "We are pleased to note that the trustees of the Liverpool Motor Club have decided to resume activities by holding a public meeting at 7.30pm on February 5th at St. George's Restaurant, Redcross Street, Liverpool. Other local clubs would do well to follow their example, as there are so many problems of vital importance to the motoring community at the present time that can be better dealt with collectively." **Bolton**

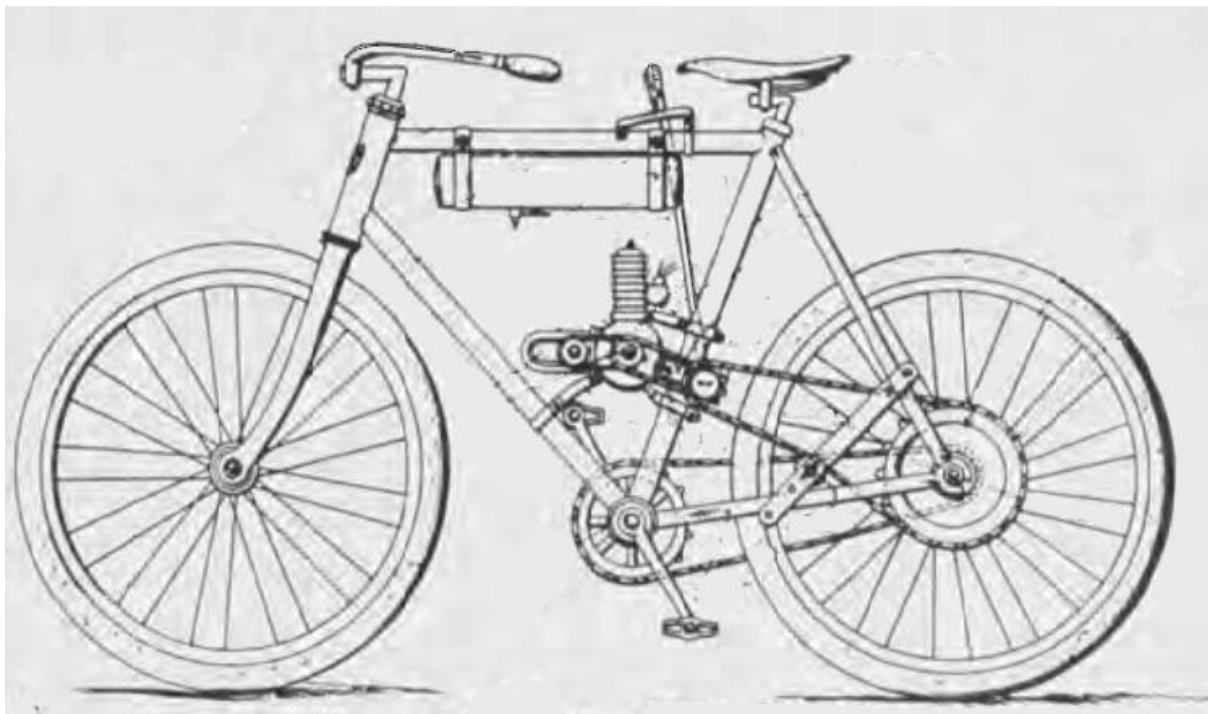
&DMC: "The Bolton and District Motor Club, which, in common with other motor clubs throughout the country, was compelled to suspend its activities in the early days of the war, is to be reorganised almost immediately. The first general meeting for the new season is arranged to be held at headquarters, the Swan Hotel, Bolton, on Thursday, February 13th, at 8pm prompt. Other intending members would greatly assist the secretary by paying their subscriptions to him at 215, St George's Road, previous to the general meeting." **Woolwich, Plumstead, & DMCC:** "There is a strong feeling amongst the members of the Woolwich Club that active operations should start as early as possible, and a 'victory' competition is among the events being planned."

Plymouth & DMCC: "Secretary TDA Chapman advises us that at present the majority of the Plymouth Club members are scattered all over the world in His Majesty's Forces. The revival of this club is not likely to be so soon as its ex-members would desire." **National**

Motor Cyclists' Fuel Union: "On Tuesday evening, January 21st, a very successful and well attended meeting of the **Portsmouth Branch** was held at headquarters, Blue Anchor Hotel, Kingston Cross. The newly elected chairman, Mr Cheyne, spoke of the future business and social prospects of the club, the evening terminating with a smoking concert. **Sheffield & District:** "We hear that the Sheffield NMCFU intends providing co-operative garages in different parts of the town for its members, built on similar principles to those described in our Reconstruction Number of January

2nd. **Despatch Riders' Club:** "A club has been formed to perpetuate the comradeship of motor cyclists who have been RE despatch riders. Such riders are invited to communicate with the temporary hon sec, Signal Service Despatch Riders' Club, RE Depot, Wellingborough. **Auto Cycle Union:** "The annual general meeting of the ACU will be held at Birmingham on Saturday afternoon, March 22nd, and will be followed by a conference of members of affiliated clubs and local motor cyclists." **Federation of Belgian Motor Cyclists:** A preliminary meeting will be held shortly, and every effort will be made to revive motor cycling. One of the evils the Federation is out to combat is the

carrying of two enormous number plates, which Belgian motor cyclists find a great inconvenience, and every effort is being made to adopt the British system of numbering.” **Ladies’ Club in Coventry:** “It is thought that there are sufficient lady motor cyclists in the Coventry district to form the nucleus of a ladies’ Club, and several keen riders of the gentler sex are desirous of forming such a club. Those interested are invited to communicate with Mrs H Williams, 76, Sir Thomas White’s Road, Coventry. **Cork & DMCC:** “A general meeting for the election, of officers for the coming season is fixed for February 5th. It is anticipated that a full programme of events will be possible during 1919. Two members of the club have recently appeared in the Gazette— Capt JW Payne, of the Connaughts, has been awarded the Military Cross, and Capt WJ Morrogh, MC, of the Northumberland Fusiliers, the Croix de Guerre. Capt LD Humphreys, the first Cork motor cyclist to join up, was taken prisoner in the first months of the war, and has now arrived home.” The bulletin also included news from the Essex MC, Bristol Wheelers Cycling Club, Nottingham & DMCC, The British’ Motor Cycle Racing Club, Hull & DMCC, Wath & DMCC, Eastern Counties MC, NMC Fuel Union, The Cyclecar Club, York & DMCC and Middlesbrough & DMCC.



Tyvald Christensen, a Norwegian living on Staten Island, patented a “motor-bicycle” to “provide a novel and improved engine and driving means whereby the ordinary bicycle can be easily converted into a motorcycle” The design incorporated a disc clutch mechanism, which coupled or uncoupled adjacent sprockets on a common shaft. An engine was to be mounted on the forward edge of the seat tube and drive one of the two sprockets on the clutch mechanism, which was mounted on the rear side of the tube. The second sprocket on the clutch shaft was to turn a chain connected to the hub of the rear wheel.

“IT IS A PSYCHOLOGICAL FACT that the individual motor cyclist is almost always most apathetic concerning that which affects motor cyclists as a whole, yet when several are banded together to form a club, there is none more ready to stand up for his rights. He forms definite opinions on matters of the moment, and he is not slow to proclaim them. He is all for the common good. In a club the trend of popular feeling can always be gauged. The reserved man finds a mouthpiece in the club secretary, and thus the technical press can translate his wants and pass them on to the legislator and the manufacturer. The present time is the one fraught with the greatest possibilities and consequences to the motoring community as a whole, and it is only the intensely united action of the individuals and the big associations which represent them that will secure them a hearing in the settlement of affairs which concern them so closely. Here, then, is the opportunity of the clubs. What is to prevent them getting into action at once, picking up the broken threads of 1914? We know only too well how many gallant fellows, the mainstay of their clubs, have laid down their lives in the great cause. Some clubs are almost extinct. Yet the aggregate number of motor cycle enthusiasts is surely greater than in the days before the war. What is wanted is a little recruiting among the newly-fledged devotees of the pastime, more publicity and more enthusiasm among the older club members. There should be no need to await the return of all the aforesaid members—there is plenty of material to hand, and there is much to be done in which the clubs can be a vital power if they will. But they must act at once. The most vital question before the motoring world is at present the fuel question. It is most undesirable that the great petrol companies should obtain the control of the home-produced fuel, benzole, which owing to their organisation and means of distribution is a possibility to be considered and resisted by all motorists.”

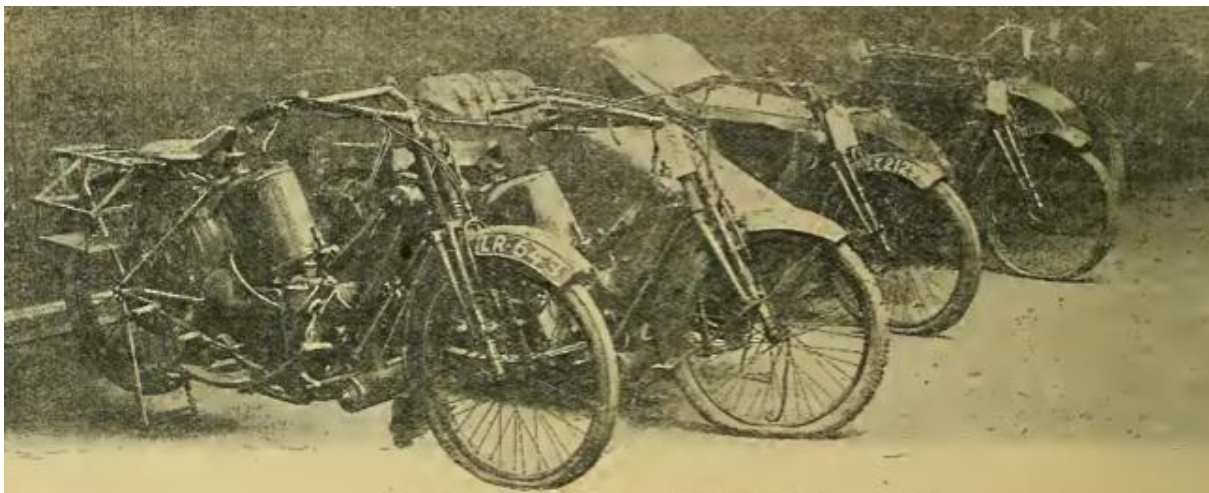


French motor cycles were required to display rather stylish tax discs. *The Motor*

Cycle explained: "This plate is the official receipt for the annual tax, and there is therefore no doubt, about it having been paid. A plateless machine is an advertisement of non-payment." France also imposed a 70% tax on British vehicles; French manufacturers said they would need this protection for at least another year.

"IN FUTURE THE MANUFACTURE OF BSA motor cycles and bicycles will be run by a company separate from the Birmingham Small Arms Co, which will be known as BSA Cycles, Ltd. Mr A Hyde, the manager of the cycle and motor cycle departments of the parent concern, will be managing director. Now that the Government contracts are about to terminate, the whole of the enormous surplus factory space and plant will be adapted to the construction of cycles and motor cycles on a scale hitherto unprecedented."

"WD SURPLUS STOCK UNDER THE HAMMER: The first sale of Government motor cycles took place at Aldridges on the afternoon of the 22nd inst. Altogether nineteen machines were sold, consisting of Rudge-Whitworths, Zeniths, Rovers, and Scotts. There was a large number of bidders, consisting chiefly of dealers, but a number of young officers in khaki were conspicuous in the crowd...Among the surplus machines at Kempton Park are a number of the following makes: Lea-Francis, AJS, Enfield 3 and 6hp, NUT-JAP, Singer, Premier, Matchless, Bat, Rex, Regal, Motosacoche, Levis, P&M, Sunbeam, and Bradbury. A large number were privately owned machines which were taken over by the Government in 1914."



The auction included ex-Army Scotts, "which were not in particularly good condition".

A REPORT ON THE TREATMENT of worn out warhorses must have dissuaded many potential buyers from attending future sales: "The motor cycles are despatched from the port of arrival in open trucks, packed cheek by jowl, fifteen to twenty at a time, and, as a result of this, the jolting of the journey and shunting, etc, they present an almost inextricable mass to the men whose duty it is to transfer them on to the familiar 3-ton lorry this process is not usually effected without sundry ruthless and sudden removals of such projections as handle-bars, oil pump handles, foot-rests, and carriers; indeed, it

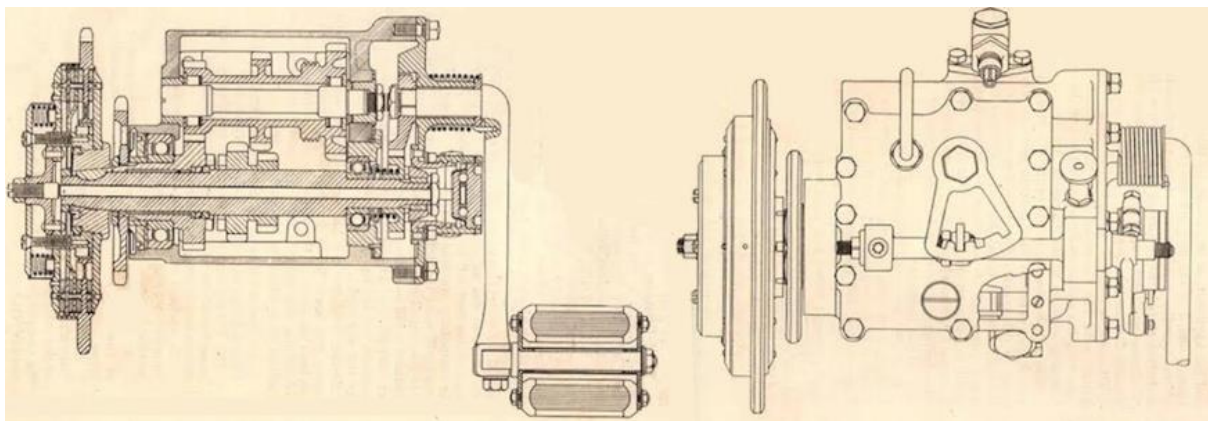
is remarkable how efficaciously 'stream-lining' may be carried out by means of a viciously applied 'ammunition' boot! The machines are next dumped (literally!) in an 'unfit vehicles' park by a receiving staff, who examine and classify the machines, and also remove the valuable 'portable property' such as magnetos, carburetters, and saddles. It may be that familiarity breeds contempt, or maybe sheer discomfort in handling rusty, jagged, broken- backed crocks (often under the bitterest atmospheric conditions), which is the cause of much damage, for if at all refractory or awkward it is no uncommon thing for machines to be flung bodily from the lorries to the ground. Undoubtedly much of the abuse and man-handling is due to the inefficiency of the arrangements for dealing with motor cycles in quantities, and the men who have no better lifting or transporting tackle than their hands are scarcely to be blamed. The damage done to machines between the actual moment of becoming unserviceable until the time of entry into the repair shops is not to be conceived by those who have not actually seen and dealt with a consignment of two or three thousand crocks, and it is safe to say that the ordinary amateur with a penchant for tinkering who buys a damaged army machine will find his purchase dear at any price."



"A page from a DR's sketch book. A scene familiar to many motor cyclists who have served in France."

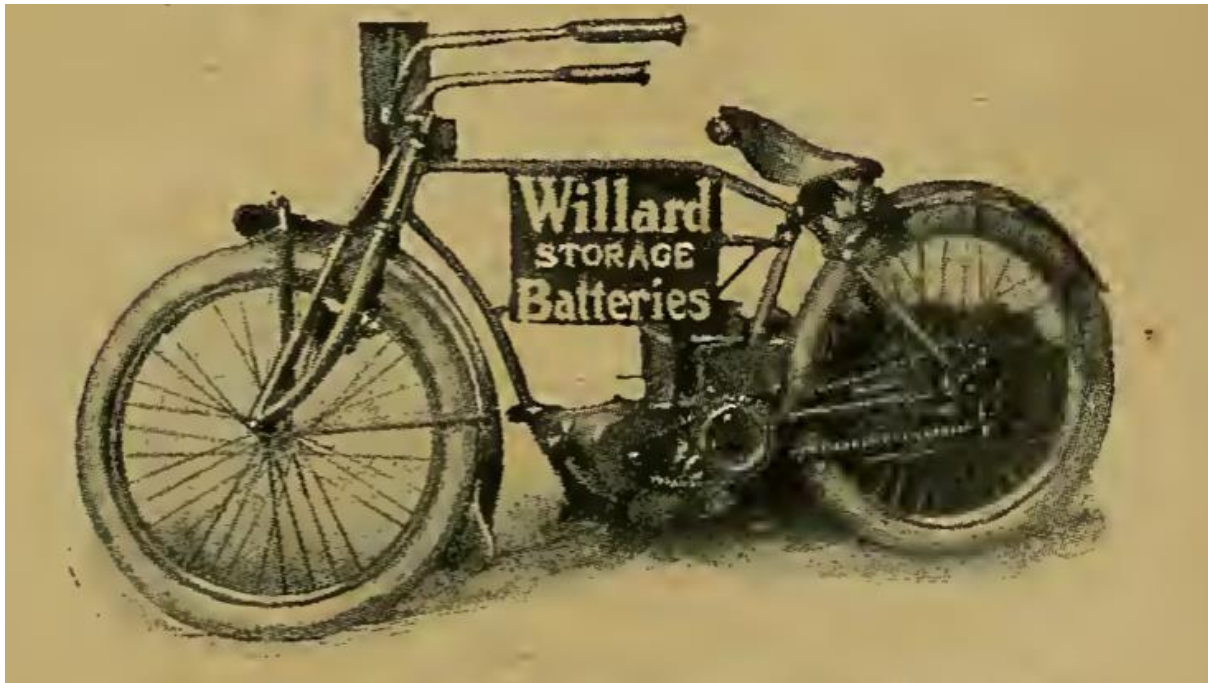
"WHEN COMPELLED TO TRAVEL on a public conveyance in London, eschew tubes and taxis, and mount a 'bus,' Ixion advised, "selecting an off-side seat on the top. When seated, do not immerse yourself in John Bull, but use your eyes. I had a good

pennyworth of smiles by this cheap method the other day—as good as any Chaplin film. It was pitch dark, and the grease was of the greasiest. As we drew abreast of Selfridge's, I heard a terrific squawking from a mechorn, and bending over perceived the ghasstliest expression of abject terror I have ever seen on a human countenance. An RAF sidecar was towing a subaltern on a disabled motor bicycle through the thick traffic by a rope about ten yards long. Nearing Marble Arch a vortex of blasphemy steamed up into a shocked sky from the intersecting point of all the traffic lines. There squatted a very frightened officer in a very small car. The bulbs of his side lamps emitted pink pin points of radiance of a cp equal to the expiring wartime match. The police were deciding what he ought to do: the rest of lhe traffic was piously declaring where he ought to be. A good penn'orth!"



This three-speed transmission was developed for a proposed 'Liberty' US military motor cycle. The Liberty name was applied to a military truck and would be revived in the Second World War for the 750cc Harley WLA and WLC models.

"THE FAMOUS LIBERTY AERO ENGINE has no magnetos," Ixion wrote, "but is equipped with coil and accumulator ignition of a very interesting type, which is practically as reliable in use as a magneto. Its special features consist of duplicate main contact breakers and a generator which perpetually renews the youth of the accumulator. As the contact breakers are in duplicate, troubles and adjustments are infrequent. No sane motor cyclist desires a better ignition than the magneto, save only in respect of starting where it compares most unfavourably with the coil and accumulator; the latter gives its best spark at minimum speed, whereas the magneto gives its worst. But if we are going to plump for electric lighting, as seems certain, the situation is perceptibly altered. One and the same battery-cum-generator outfit may at some future date cater for both ignition and light? When the electrical trade offers us such an outfit, plus its special starting facilities, plus the reliability for which the magneto is famous, we can only make one reply."



“An electric bicycle used with a delivery sidecar by the Willard Storage Battery Service in Pendleton, Ore, USA. An old motor cycle, sans engine, and a ‘starter’ from an automobile, with a storage battery, form this interesting combination.”

SIR,—SINCE JULY, 1914, I HAVE OWNED the following: Quadrant, Triumph, Warne cycle car, 1914 6hp Royal Enfield, Douglas, 1915 6 hp Enfield, and, again, a 2¾hp Douglas (my present mount). I have been a rider continuously since 1903, and on looking back over four years of war one wonders how we have kept on the road at all. My official duties have given me many rough journeys, and, like many others, I have had to do most of my own repairs. Coming home to Brighton on a very dark and rainy night, with both bottom fork links broken, carbon brush broken, and a belt link 1in instead of ¾in, is no joke on a Douglas, although I had a stout strap to hold the front forks to the rest of the machine. My Quadrant, which had a hub gear, I sold, and subsequently obtained a Warne cycle car, as I wanted protection from the elements. May I be forgiven for deserting a motor cycle. I have distinct recollections of overheating, breaking valves, and tremendous petrol consumption whenever I tried to keep the ‘bus covering thirty miles in the hour.



1910 Triumph: "Without doing anything except putting on the belt again, the old 'bus fired, and was never any further trouble."

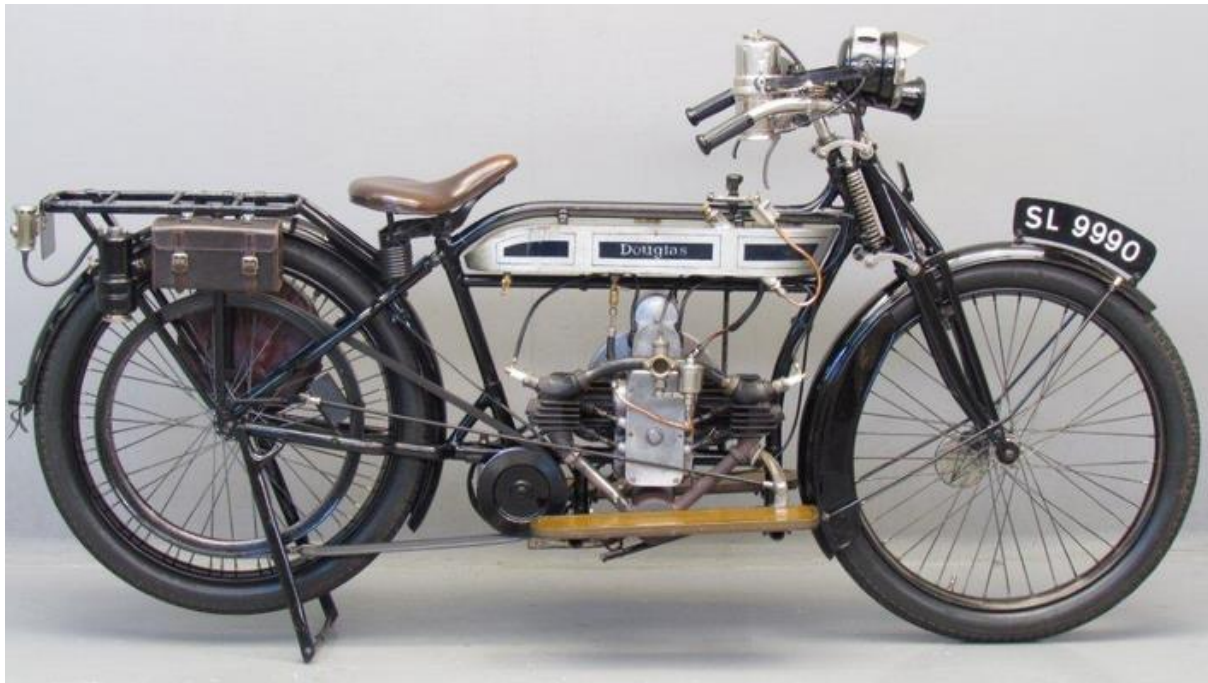
This was a useless proposition to me, because the whole thing wanted thoroughly overhauling, and in war-time no one could be found to do the job. To carry on, I bought a single-speed 1910 Triumph, and as I prided myself on always having an up-to-date 'iron', this was nearly the limit. We went together for many, many miles all over Sussex, but did I not have to pedal up some of the hills? I called on some friends one day, and left it against a tree. When I came out of the farm I could not get it to fire, although I tried for one and a half hours. I was stranded seven miles from the nearest station, so the Triumph was left there until the Sunday, when we were both ignominiously towed home by another Triumph. The joke of the whole thing is that immediately I got home, and, without doing anything except putting on the belt again, the old 'bus fired, and was never any further trouble. Many little things, such as using small wire nails for chain rivets, Chinese lanterns when carbide gave out and none could be bought, getting paraffin from country cottages before the engine cooled, going without a decent meal for seven and eight hours at a stretch because country places gave up making meals owing to the rationing scheme, were all in the day's run...For some time I had the loan of a 1915 3½hp Sunbeam combination, and never was a sweeter 3½hp made. My wife and I went



1915 3½hp Sunbeam: “My wife and I went from Brighton to Manchester, and took five days to get back...Never a misfire from the engine all the way.”

from Brighton to Manchester, and took five days to get back: held up in Birmingham for two days, dug out of 15ft snowdrifts in the Vale of Evesham, wet through (and, owing to snow penetrating the bag, no change of clothes) at Oxford, but nothing except kindness shown everywhere. Never a misfire from the engine all the way; and when I say I had to take off the footboards and front mudguard, frictioned a back tyre through, and knocked off the silencer, it will be noticed it was ‘some’ ride. In 1916 I did the run from Brighton to Manchester in one day on a 6hp Enfield which had been hammered for over two years, and except for a puncture I had no trouble whatever, and got to a theatre in the evening. My many changes of machines have been necessary because big repairs could not be done under a long period, although I could get a Class A priority certificate. I could only sell out and buy another machine. I found that to pay a good price for a reliable second-hand machine was the only way out, and I think this is a method that will pay others in the near future. I practise what I preach when I state that a fortnight ago I gave £45 for my present 1914 2¾hp Douglas, but its condition is practically perfect. I have fifteen years’ experience of motor cycling, but, like many others, I will give it up and take to a bath chair with auto-wheel attached before I will give £150 for a motor cycle and sidecar which to-day, as in 1905, covers me with mud and road filth, and requires six hours’ solid work to clean it after 150 miles round Sussex on a bad day. We are a cheery lot, but there are limits even to our expenditure for our pet hobby.

WM WILSON.”

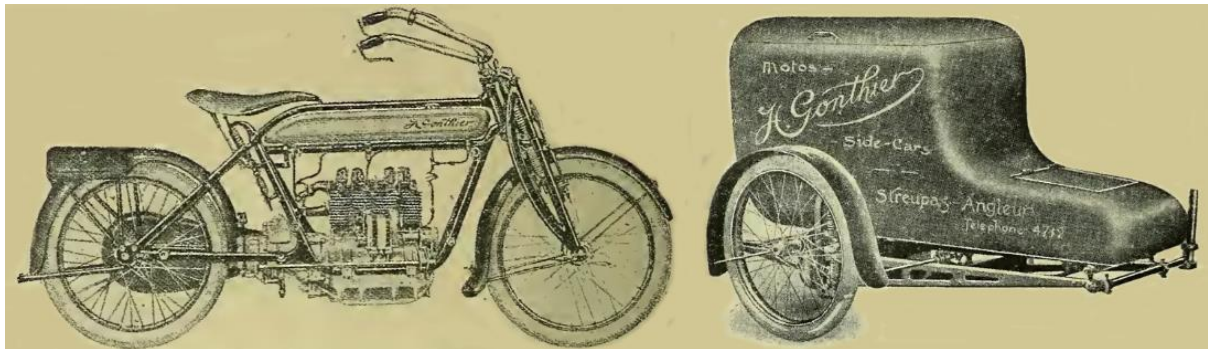


“I gave £45 for my present 1914 2¾hp Douglas, but its condition is practically perfect.”

AS THE MOTOR CYCLE TRADE MATURED dealer networks were springing up. Godfrey’s, based in Great Portland Street, London W1 (a hub for motor cycle importers and dealers) took on sole rights to ABC in the South of England, and advertised for “agents desirous of representing the ABC Motor Cycle in their district”. In North London Rider Troward & Co had sole south-of England rights to NUT and Metro-Tyler; they too advertised for “suitable sub-agents”. They also opened “extensive showrooms in Great Portland Street for the exclusive handling of these two machines”.

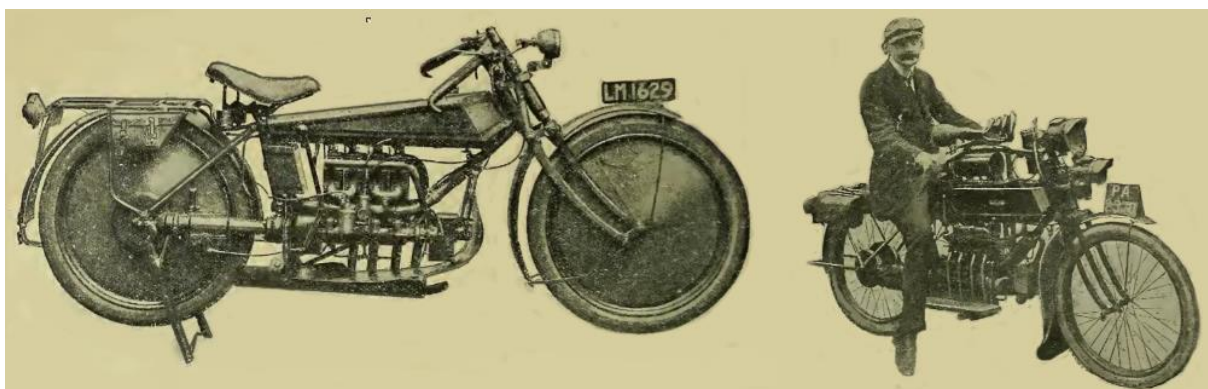
“BELGIUM’S FIRST POST-WAR PRODUCTION: Belgian motor cycle manufacturers are making rapid recovery, despite the troublous circumstances which are still extant, and that they are not behindhand in following the trend of modern design is evident from the production of a four-cylinder machine at Liege, the town whose name conjures up gallant memories of the early days of the war, and which, in pre-war days, was the home of another well-known Belgian motor cycle, the FN. The designer and manufacturer, who has got so quickly to work, is M Henri Gonthier, well-known in motor circles in Liege.” The Gonthier’s 748cc IOE four was of unit construction with a wet plate clutch and a seven, yes, seven-speed gearbox: “It is said to be just as simple to operate as a three-speed gear, and yet it provides a fairly gradual progression from low to high, and vice versa. At the same time, it is possible to overstep the intermediary gears and change directly from low to top or otherwise, as desired. The designer describes the gear quaintly as a three-speed gear with two intermediary gears between first and second, and two more between second and third.” The wheels were QD and interchangeable; when the company’s sidecar was fitted a spare could be carried. Gonthier also planned to resume production of its pre-war 3½hp 50° twin. The Blue ‘Un concluded: “As far as we are able to judge, this machine gives great promise, and,

provided that production is not interfered with by the aftermath of war, it should form a sturdy competitor in the four-cylinder market.”



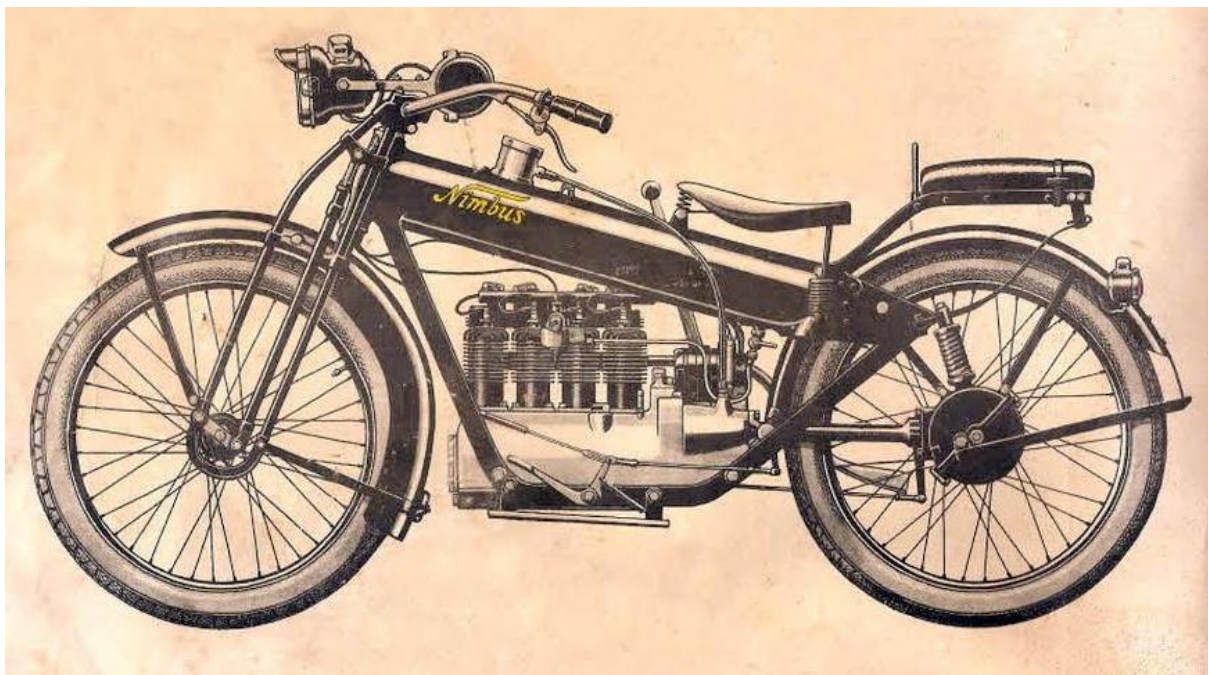
The Gonther was Liege’s second four. Also available was “a gracefully designed business sidecarrier supported on a chassis of original design, the longitudinal framework being of pressed steel”.

“TWO OF THE PRINCIPAL BELGIAN MOTOR CYCLE firms, FN and Sarolea, are in a bad way, as the Huns have carried away most of the tools and material from the factories. FN has suffered particularly severely in this respect. Not only have the machine tools been taken away, but the foundations on which they were built have been absolutely demolished. Many private motor cyclists had their machines requisitioned by the enemy, consequently there is a good demand for motor cycles, though Belgian agents for English machines are not in a position to supply, owing to their being unable to secure delivery.”



Left: Belgium’s best known bike was the four-pot FN; Motor Cycle’s correspondent ‘Olivos’ picked up an ageing example for a song and extracted more power by converting the exhaust valves to inlet valves and fitting overhead exhaust valves. Then he lowered the fuel tank, fitted disc wheels and increased the fork rake. “Several alterations were also made to the frame, which has changed a somewhat cumbrous touring machine into one with a very sporting appearance.” Right: An enthusiast named TC Garrett was also playing with an old FN. He fitted a new tank, rebuilt the engine and fitted an AMAC carb—after a bit of tweaking he improved the big four’s consumption from 40 to 90mpg.

FN WASN'T THE ONLY European in-line to predate the BMW K100 (in 1983...yes that long ago. Time does fly). Fisker and Nielsen of Copenhagen launched the Nimbus (a wonderful name best translated as 'cloud of glory'). It was a sturdy beast with a 746cc lump developing an ever-so-'umble 10hp; towing a chair claimed top speed was under 55mph. The oversized fuel-carrying top tube led Danish riders to call it the Kakkelovnsrør (Stovepipe)—you have to wonder if the designer had seen the Pierce in-line four with a similar set-up which had appeared eight years before in the USA and was in turn inspired by the Belgian FN. Unlike the Pierce and the FN, the Danish four boasted rear suspension. Only three bikes were built in its first year but until a sales tax and recession called a temporary halt on production in 1926 some 1,300 were produced (a revamped Nimbus appeared in 1934 with a more powerful engine but a rigid frame).



Like the Pierce, the Nimbus carried fuel in an oversized top tube. Unlike the Pierce, the Nimbus featured swinging-arm rear suspension.

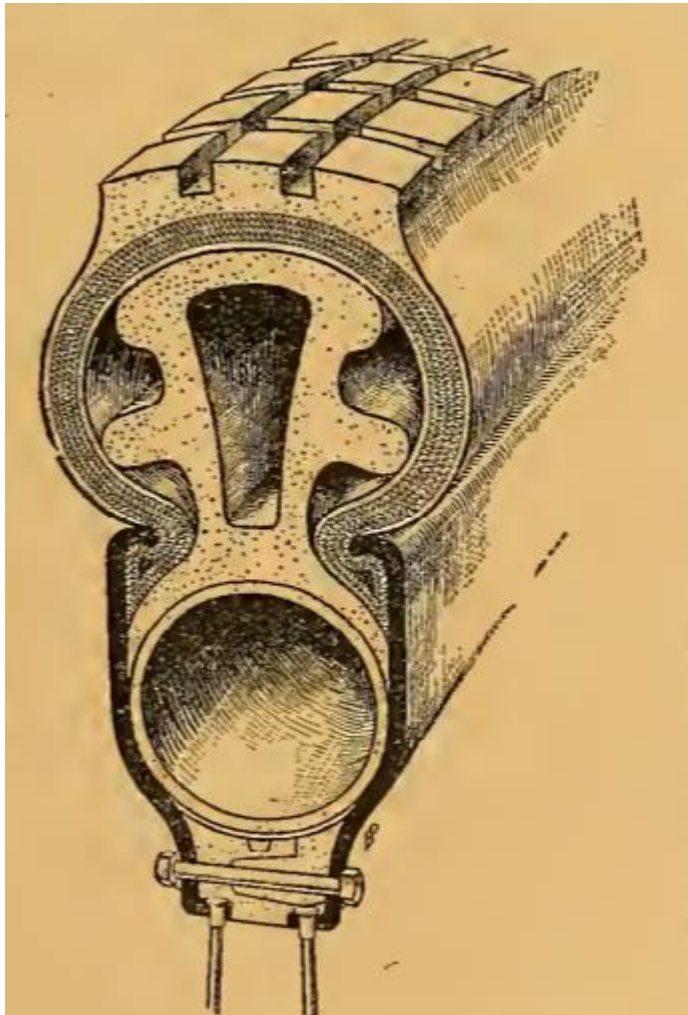


The Nimbus was a docile beast. Why, even the gentle sex could ride one.

FOR SOME RIDERS THE WAR wasn't over. Billy Pratt had been a top flight competitor in long-distance trials for P&M before heading overseas but wounds sustained at Arras had left him in hospital for 15 months. The Blue 'Un reported: "He is looking forward to the time when he will be on the road again. We hope the date is not far distant." TT and trials rider Basil Vickers-Jones was home after five years in a German internment camp. Vickers-Jones worked for Premier and was at the company's Bohemia works in 1914.

"MR F LIONEL RAPSON, THE INVENTOR of the Rapid jack and other car accessories, has produced an unpuncturable tyre, which appears to have great promise. It will be seen that it requires a special rim to accommodate it, and is a modification of one of the patterns suitable for cars. The pneumatic principle is retained, but the inner tube is considerably smaller, as compared with the cover size, than the ordinary air tube.

Between the tube and cover lies the deflector, which is an endless band of rubber having spaces throughout its length containing air at atmospheric pressure. The inner tube lies in the recess of the rim itself, and is therefore completely protected at the sides, while the depth of the deflector above it supplies a like protection against anything passing through the tread. Provided there is no interference with the liveliness of the machine—a much more important point with the motor cycle than with the car—a great demand is bound to arise.”

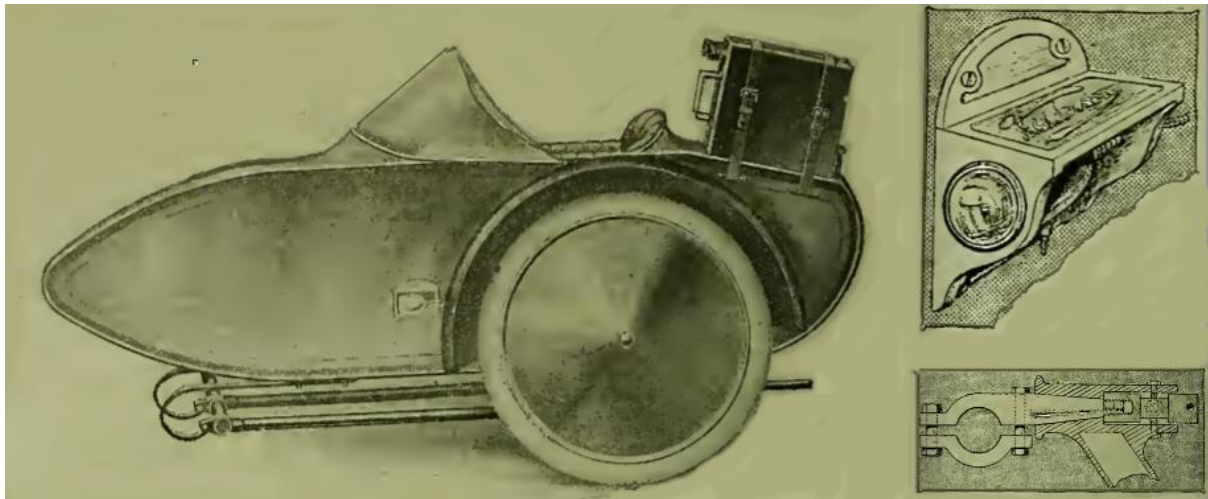


“Sectional drawing of the new

Rapson tyre for motor cycles.”

BIGGEST BIKE IN THE 1919 RANGE from the Ixion Motor Manufacturing Co was a 348cc two stroke ‘sidecarrette’ with a three-speed Sturmey-Archer gearbox. The makers said: “This is more than a two-stroke lightweight with sidecar attached; it is designed throughout as a sidecar outfit for those to whom very high road speeds are not essential...The lugs for sidecar connections are not detachable from the motor cycle frame, and to detach the sidecar occupies about three minutes only.”

“HANDLE-BAR MUFFS: This (February) is the time of the year when handle-bar muffs add to the comfort of riding, yet very few are seen in use...Gloves that fit tightly upon the hands are as bad as no gloves at all, at this time of the year.”

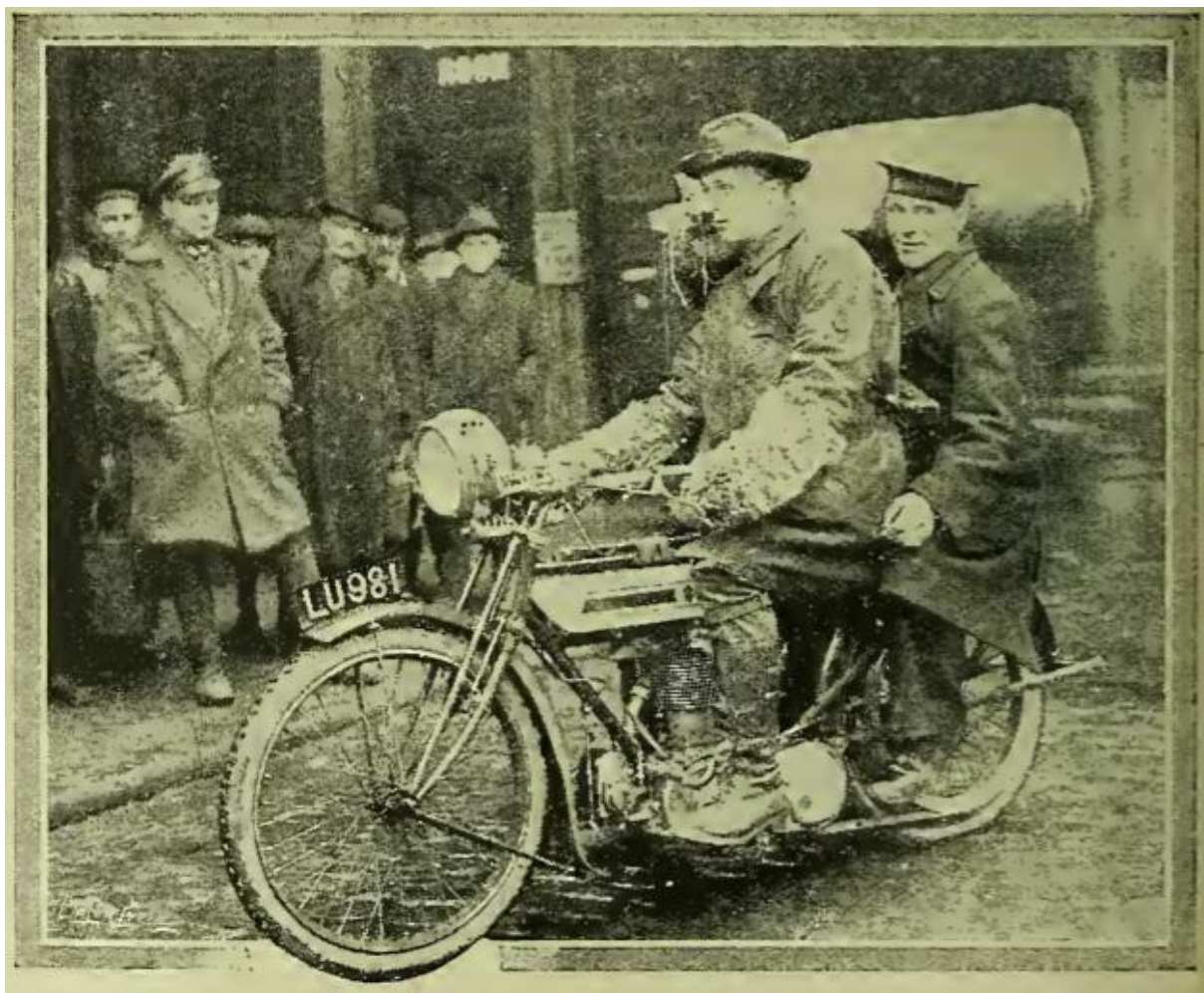


“The latest model Henderson sidecar has a distinctly pleasing appearance, and one which will appeal strongly to the sporting motor cyclist especially. However, nothing appears to have been sacrificed in respect of carrying capacity. Those parts which cannot be enamelled are constructed of the new rustless steel which, it is said, will not even tarnish...A novel feature is the incorporating of the sidecar lamp. The connections are by patented adjustable joints.”

IXION WAS PONDERING ‘CLEAN’ DESIGN: “OF course, a motor car is a civilised being, and wears clothes: all its indecent intestines are secreted beneath the bonnet, coachwork, and floorboards, and none of its works need show except the steering connections and back axle, which are not obtrusive. By contrast the motor cycle is a naked savage from a kraal, and as long as it is air-cooled, portions at least of the machinery must remain exposed. But there is neither need nor excuse for the myriad dirt and rust-collecting crannies which still characterise the machines of all nations. Whether we consider the handle-bar with its assortment of levers and accessories—all attached by plate-clips—or the front fork head with its telephone exchange of tangled wires, or the tank top with its filler caps, petrol valves, lube recesses, tank clips, and oiling apparatus, or the crank case, or the gear box, or the rear hub, or the carrier, we find an utter absence of smooth and shapely surfaces, and a bewildering multiplicity of what Major Matson used to describe as ‘twiddly bits’. Until these are exorcised, our machines must continue to displease the eye and absorb hours when they require cleaning...fittings are the main problem: so long as the machine is condemned to carry a bristly, spiky, amorphous unit at its centre, no designer will see the point of cleaning up such comparatively simple details as the handle-bar, crank case, and chain cover...If this is once successfully attempted, the motor bicycle will, so to speak, substitute a neat pair of tailor-made trousers for its present waistband of beads and wire; and, in due course, it would add a bowler hat in lieu of painting its cheeks and sticking feathers in its hair. All of which improvements are ardently to be desired. Pardon this outburst, gentle reader. It has been thawing to-day: my front mudguard fell off eight miles away, owing to a rusted bolt: and it is ‘some’ cold in my garage. Also, I had been to a dance,

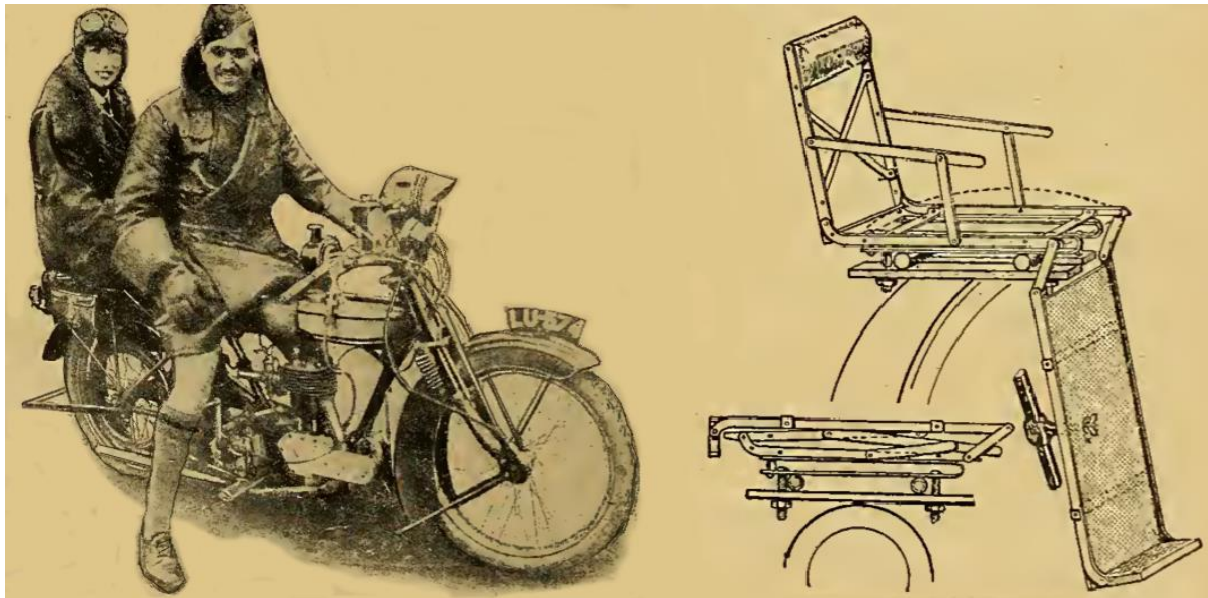
and was too lazy to change out of dress trousers' : and when Mrs'. Ixion saw them laid over a chair back 'this morning, she said '—— ——— !!!'."

BACK ON PLANET EARTH Ixion wrote: "I confess to very real disappointment at the obvious decision of the motor cycle trade as a whole to adhere to side valves. In the old days the overhead valve was wisely eschewed because of the risk of fracture: this danger is wholly obviated by modern steels—there are air-cooled aero engines fitted with exhaust valves nearly 2in in diameter, which never break, although the heads are thin and light. On the technical side there is not one solitary word to be said in favour of side valves, and least of all in connection with air-cooled engines, where a symmetrical section is so invaluable as a preventive of distortion. The real problem in the application of ohv to motor cycle engines is purely practical...Overhead valves threaten to foul the middle rail of the frame with vertical engines, and elongate the already over lengthy flat twin. So we see the Rudge people scoloping out their petrol tank to clear an overhead inlet valve, and Mr. Bradshaw mounting his 400cc flat twin athwart the frame. Nevertheless, I cannot help feeling that overhead vaves will gain ground, as their technical merits overweigh the practical difficulty."



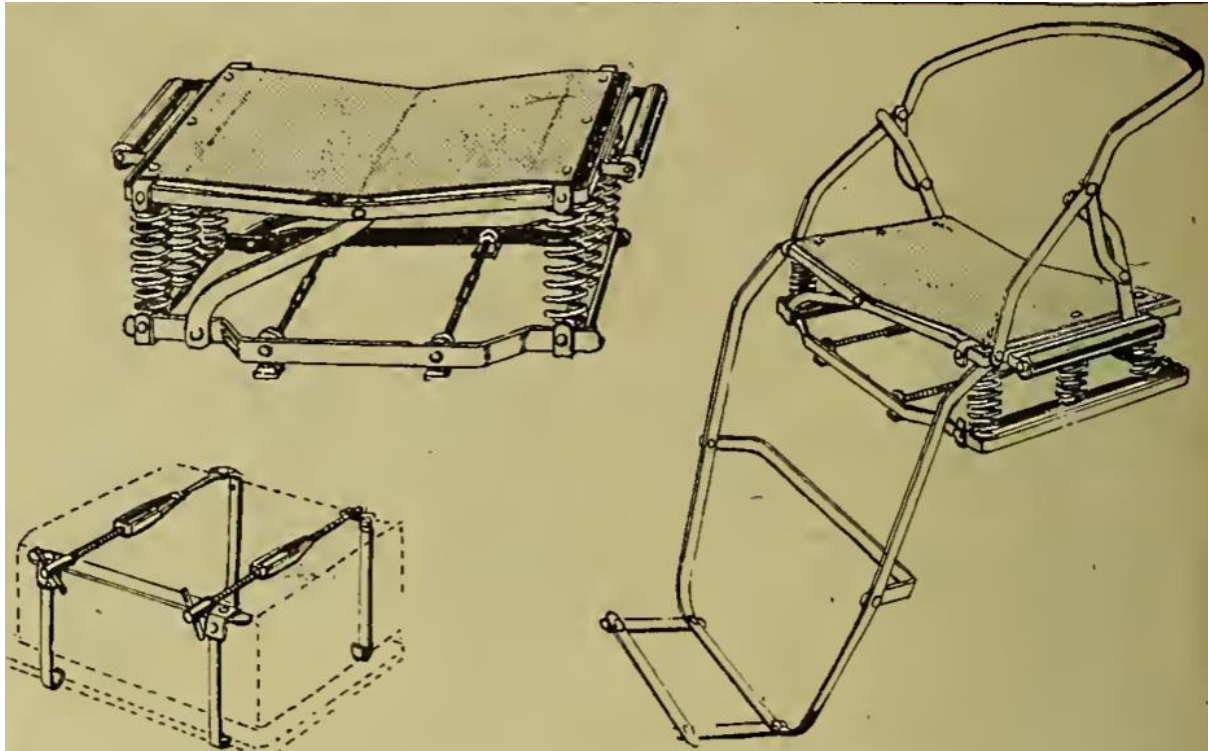
"Demobilised. The rider of a Triumph countershaft model aiding in the rapid dispersal of

the demobilised. The naval man who has just received his papers is evidently no stranger to pillion riding, judging by the weighty kit bag he has to balance."



"A cheerful owner and passenger on a Norton 'Big Four'. In spite of protests occasionally heard against pillion riding, this form of passenger carrying is still popular. (Right) A useful folding pillion seat is to be sold by JHM Pollock of London WC2. The seat possesses the advantage of a comfortable back, and is suspended on a U-spring with a spiral spring at the rear. A protected leg rest is also fitted, which should be extremely useful in the event of the seat being used by a lady, adequately protecting the dress from the spokes of the rear wheel. When out of use the seat folds neatly away, and the leg rest, folding over the top of the whole, forms a luggage platform."

"WHILST WE DO NOT WISH to encourage the dangerous practice of carrying a passenger on the carrier of a solo machine, it is obvious that there is little objection to the carrying of a third person on a properly-designed carrier seat of a powerful sidecar combination; and it is principally with this object in view that the Tan-Sad Co are developing their series of spring carrier seats. Wooden handles may be added as further security for the rider, and for a solo machine a jockey type of stirrup gives support for the passenger's feet. When in use with a sidecar, with the passenger sitting sideways, a footrest and backrest can be fitted. A can of petrol may be firmly fixed on the seat, when not occupied by a passenger, by the use of a patent grip."



‘The Tan-Sad sprung pillion seat is shown with and without the addition of a foot and back rest. The petrol-can grip is formed of turnbuckles and linked metal strips.’

BEFORE LONG, HOWEVER, THE BLUE ‘UN was quietly dropping its opposition to pillion riding. “Many letters continue to reach us on the subject of pillion riding, which show that in the unlikely event of its being prohibited by Government, a hardship will be inflicted upon many. We have never advised our readers to take passengers on their carriers, for we know that, under certain circumstances, the practice is attended with risk; it adds, moreover, to the difficulty of getting out of a tight corner. Still, it cannot be denied that many careful riders indulge constantly in this sport, with perfect safety to themselves and their passengers. Whether a passenger can be safely carried or not depends to a large extent upon the weight distribution of the machine. When the weight is well forward the presence of a passenger does not seem to affect the steering adversely, but, on the contrary, the added weight in the rear steadies the machine over rough roads. It is true that coroners sometimes express very decided views upon this matter, but we confess that the outpourings of coroners do not greatly impress us. Still less do those of coroners’ juries and town councillors. We want no grandmotherly legislation. Hunting accidents often occur, but we do not find the parish councils suggesting that hunting should be stopped by law. Driving to the danger of the public is already—and quite rightly—a punishable offence. Whenever it can be shown that the presence of a passenger on the pillion endangers the public it becomes an offence; surely this is enough! Curiously enough, none of our correspondents have touched upon the sidecar pillion rider. There can be but little danger here to the public, or to the rider. In any case, a sprung seat which does not sway sideways adds both to the comfort

and safety of the pillion rider, and eases the shocks which fall upon the carrier and frame.”



“A

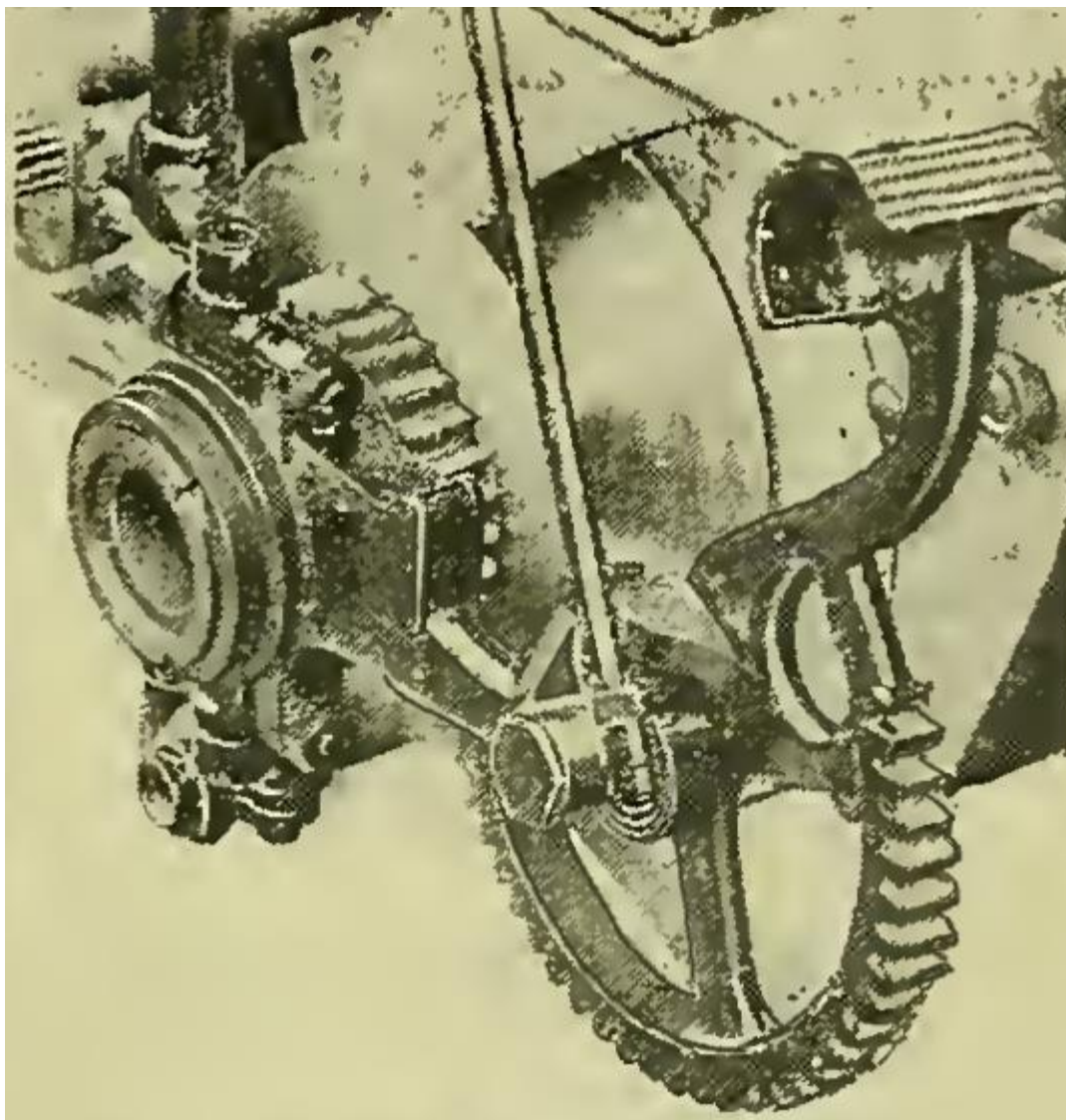
pillion passenger whose appearance is more effective than practical.”

“SIR,—IN A PARAGRAPH IN YOUR ISSUE of the 30th ult it is suggested that, owing to the uncertainty as to whether the TT course can be put into proper order, Ireland is the only alternative for a race this year. I do not know on what facts this paragraph is based. The truth is that the TT course, with the exception of one small part, is in as good condition to-day as it was in 1914, when the races were last held. That one patch—it is part of the mountain road—is cut up very badly, and I have talked the matter over with the Highway Board, which is responsible for the upkeep of the Manx roads, and the Board is ready, provided the ACU signifies its willingness to hold the race, as quickly as possible to divert all work on other roads and to restore, and even better, the TT course, so that the races could be held here as in former years. I trust that your influential journal will do what it can to assist in the reconstruction of the TT races. The Isle of Man has passed through a very bad time since August, 1914, and it wants every possible help it can get, otherwise the plight of the inhabitants, who have hitherto always given of their best to the motor races, will be terrible. I might add for your information that the Shipping Controller has already informed the Island that we shall have our boats back before June next.

GEORGE SA BROWN, Douglas, IOM.”

“OLD USAGES DIE HARD, whether ridiculous in their application or not, and a case in point connected with the riding of motor cycles is the unjustifiable employment of the term ‘season’. At all times of the year, in the cold days of January and in the broiling heat of August, the motor cycle is to the pleasure-seeker a pleasure and to the business man a boon. True sport and real pleasure may be experienced in the rush of the biting wind, as well as in the soft breezes of summer; variety is the spice of life, even in motor cycling. Neither is this ‘all-the-year-round’ riding confined to the male sex. A sign of the times is observable in the keen enthusiasm of lady motor cyclists and sidecarists in every kind of weather. It is from the riders who scorn to store their machines in winter that one gets the reasoned and sound criticism of weatherproofing, and constructive criticism is the most effective way of drawing manufacturers’ attention to riders’ wants. In talking of fishing, football, or cricket, the expression ‘season’ is sensible; it has a meaning. But to apply it to a mode of travel as universal as motor cycling is a reflection upon the all-weather qualities of the modern motor cycle.”

“JUDGING FROM THE NUMBER OF SINGLE GEAR machines in existence and the demand for change speed gears, the Grado expanding pulley will be welcomed by a large number of riders who are now fitting up second-hand machines. It gives a free engine and ratios from 4:1 to 8:1, and now embodies a kick starting gear. A gear wheel is carried on the pulley, and is connected to the engine-shaft through a free-wheel ratchet arrangement. Behind this is a segment embodying a pedal lever, which, upon being pressed down, engages the segment with the free-wheel pinion and turns the engine...this latest design also has an improved method of attachment to the crank case, which permits it being fitted to almost any engine without undue trouble.”

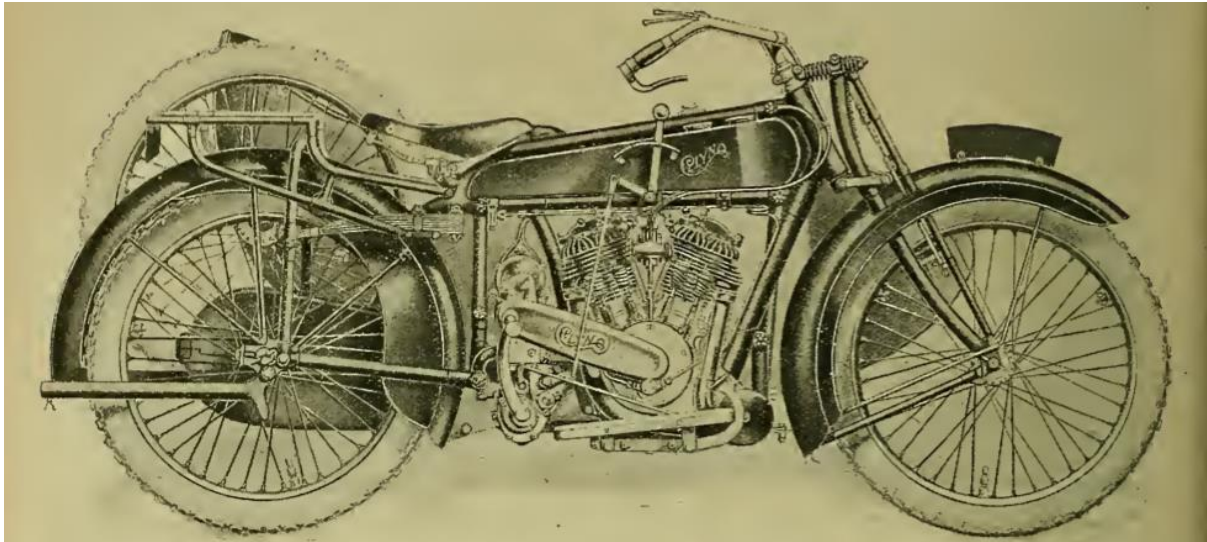


The

Grado pulley was a simply way to upgrade a single-speeder.

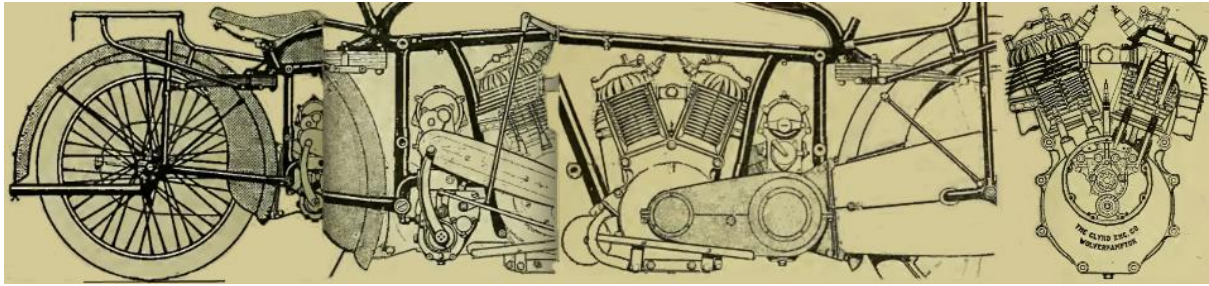
“WE HAVE LONG URGED THAT BRITISH MOTOR CYCLE manufacturers would benefit by more careful attention to the insistent demands from Overseas for a machine in every way suitable for the special requirements which were only fully covered in the big twin class by certain American machines. What is required by a large number of Overseas buyers is a large capacity engine, 28x3in tyres, spring frame, and, coupled with such a specification, British quality in design, material, and workmanship. The Clyno Engineering Co. in their “peace model” have, it will be seen, appreciated the needs of a vast proportion of the Overseas market, for the new Clyno has been designed throughout, from the point of view of the Colonial, and the result is a machine which sets a new standard of design which will be appreciated just as much by riders at home. The popularity of American machines in this country and Overseas indicates that what is absolutely essential in the Colonies is also desirable in Great Britain ; hence, while the motor cycle designed for this country may not be suitable for South Africa or

Australasia, the true Overseas mount is equally good for home or abroad. The general outlines of the



“The 8hp peace model Clyno: 76x102mm, 925cc capacity; detachable heads; 28x3in detachable wheels; mechanical lubrication; spring frame.”

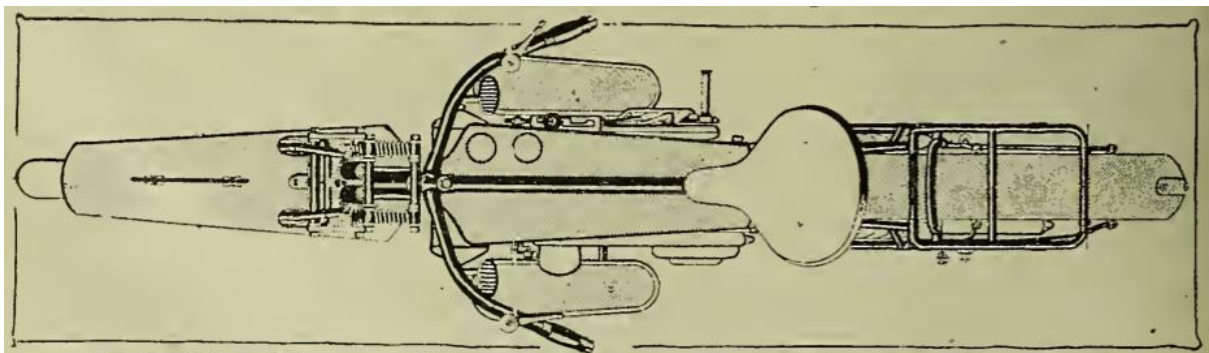
new Clyno, at first sight, appear to follow those of well-known American machines. This, however, probably is due to the high ground clearance (over six inches), the spring frame, and unconventional looking carrier; because, upon examination, the general design is more British than American...The frame is of very substantial construction, the makers' experience with their machine gun sidecars being responsible for several special features, notably the exceptionally strong head, which has massive, but by no means ugly, webs on each side and at the rear of the casting...Comparatively short springs with seven leaves are hinged at their rear ends on the sides of a loop member over the wheel, which in turn is pivoted at the ends of the chain stays...An 8in internal expanding brake is fitted on the driving mechanism at the rear wheel, and is operated by a pedal on the left side of the machine. The shoes are faced with Ferodo, and therefore renewable. The front brake is of the conventional type, ie, fibre pads in shoes working upon the rim of the wheel and operated by lever on the handle-bar...Front and back stands and Brampton-type forks complete the main elements of the frame...We may say that it is a long time since we were so favourably impressed by a motor cycle engine, both in the points of design and performance...the stroke, in proportion to the bore, is longer than that of any British twin motor cycle engine hitherto produced, the ratio being nearly 4 to 3...Important features are the detachable heads and the methods adopted to hold them in position. On two sides of each cylinder there is a swivelling bolt extending from the crank case to above the cylinder heads where they are linked by bridge members, which bear upon the centre of the cylinder heads. The part in contact is concave on the cylinder



From the left: "The rear springing of the new Clyno. Gear unit showing the combined magneto-dynamo, which may be fitted to order. Strong metal chain cases are fitted which are readily detachable. The valve-operating mechanism."

and convex on the bridge piece, which makes the latter more or less self-centring. To detach a cylinder head it is only necessary to remove one nut, slacken the other, and swing the bridge piece clear. The head removed, together with the valve chests and valves, the cylinder barrels may then be withdrawn without further use of tools.

Accessibility at every point is a strong feature of the design. The foot boards and pedals are built up as a complete unit, which may be removed by withdrawal of two bolts. The clutch is rendered accessible by detaching two screws on the domed cap and two nuts on the top of the case. Altogether the new Clyno impresses us as a thoroughly sound proposition, and one which will remove much of the complaint against the British motor industry, that Empire trade is not regarded seriously."



"Plan view of the new 8HP peace model Clyno."

"THERE IS AN ILL-ADVISED AGITATION amongst a certain section of the bicycling community for the removal of the regulation compelling all road vehicles to carry rear lights. They believe, or affect to believe, that motorists are the cause of the retention of this regulation. It is quite true that motorists welcomed an Order which was obviously for the public safety and did no more than compel others to do what they themselves were already obliged to do. Every- thing that can be urged against rear lights on bicycles can also be urged more strongly against rear lights on motor cycles, and yet motor cyclists are not following the German plan of raising a plaintive wail...It has been suggested in our columns and elsewhere that it is gentlemanly to carry a rear light. We agree. Another point: The fact that quite a large number of cyclists carry a red light in front is used to prove that the regulation is complicated. To us it only seems to suggest

that the cyclists in question should not be allowed on the roads without a keeper. The only fault we have to find with the red rear light rule is the very inefficient way in which it is enforced by the police.”

“THE BUGBEAR OF METROPOLITAN MOTORING is the prevalence of theft. The burglars are as ingenious as they are daring. No car or cycle is safe if it is of a sufficiently common type to evade recognition during its hasty trip to the secluded workshop where it is camouflaged prior to sale. The designer and accessory .dealer have an obvious opening. As soon as bicycles lost their rarity and individuality,, cycle thieving developed into a new ‘crook’ profession, and anti-thief devices of an effective character came on the market. Similar devices are easily applicable to motor cycles, and the demand for them will be constant.”

“A GENTLEMAN, WRITING TO US from Newark, NJ, gives the British industry the credit for the introduction of, among other things, flat twin engines, footboards, gear boxes, kick starters, sidecars, and front wheel stands, and points out that all the US industry can point to seems to be electrically equipped mounts...’Your Triumph single must be a cuckoo of a mount, our friend continues in pure American. ‘Three friends of mine—American DRs who have ridden two or more British mounts—simply rave when they describe the actions of a WD Triumph. One lad says it is the first real motor cycle he ever straddled.’ We are informed that there is every evidence that there will be a big revival of sport in the USA this year, but the industry appears to be composed only of the Indian, Harley-Davidson, Excelsior, Henderson, Cleveland, Thor, and Reading Standard companies. The Smith motor wheel is still going strong, but the Merkel and Cyclemotor have dropped out, as also has Emblem.”



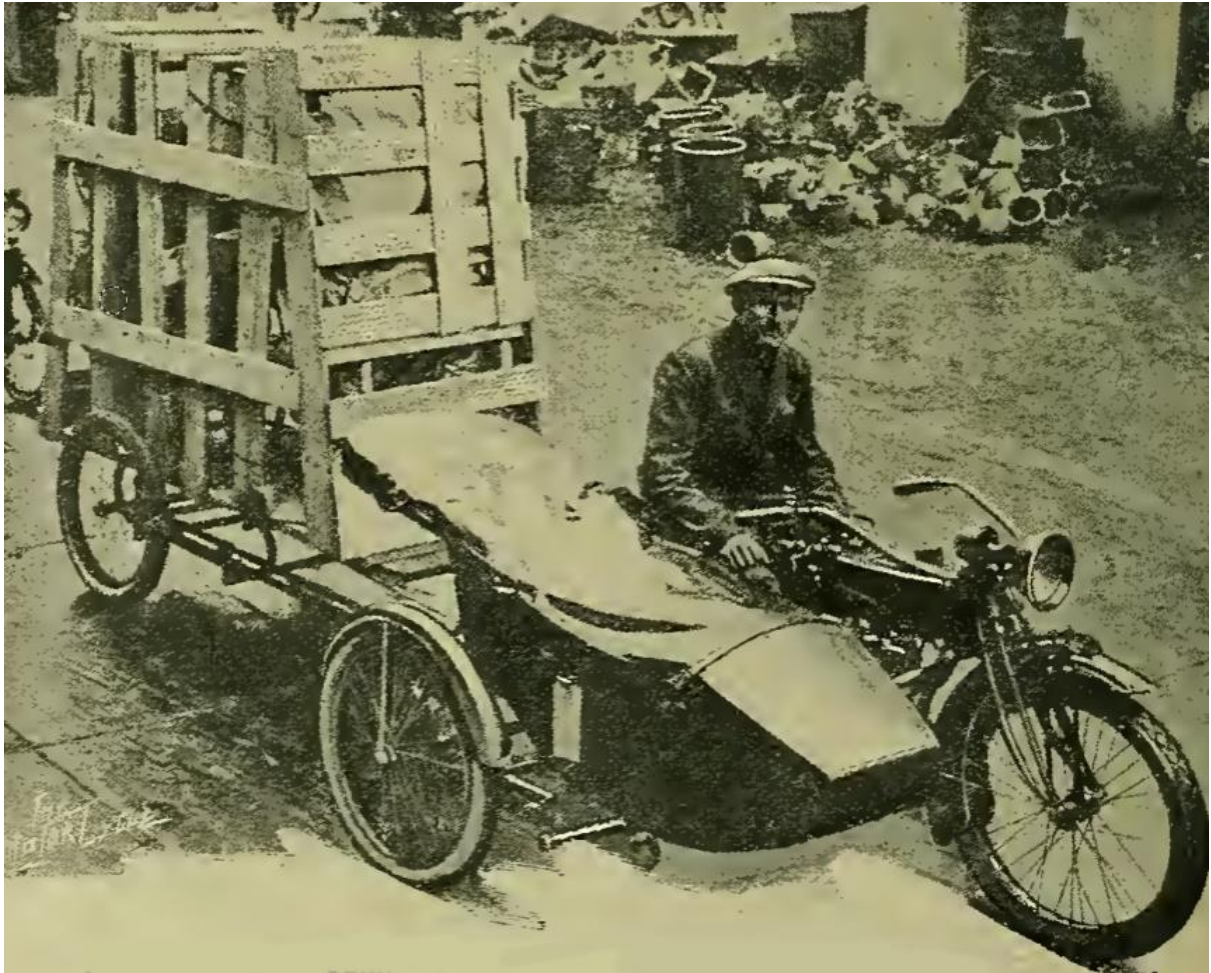
From the capacious archives of my chum Francois comes this nicely colourised snap, taken outside the US Capitol in Washington. Evidently the motor cyclists had just scooped up the fox, which was someone's cherished pet.

"THE HOSPITAL MOTOR SQUADRON, attached to the RAC, appeals for transport for the wounded still in London hospitals to the various entertainments provided for them."

"THE RATION OF PETROL to motor cyclists in Italy is now seven gallons a month. The importation of foreign machines is prohibited except by permit."

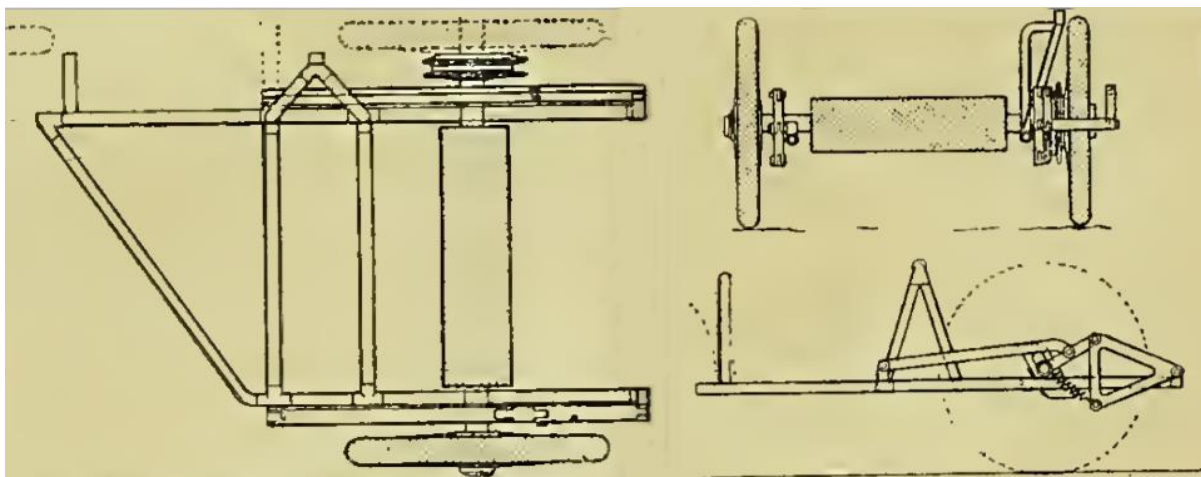
"THE NATIONAL BENZOLE ASSOCIATION have fixed a standard for benzole to be used as motor spirit. It will be free from acids, alkalies, and sulphur, like water in appearance (pre-war benzole generally had a yellow tinge), and the specific gravity will be .870 to .885."

CONNAUGHT WAS A PIONEER of basic two-stroke lightweights—it had been the first UK marque to use petrol lubrication—but its 'peace model' was little changed from the 1914 season. The over-square (73x70mm) 293cc single featured all-belt drive with a two-speed gear as an optional extra.



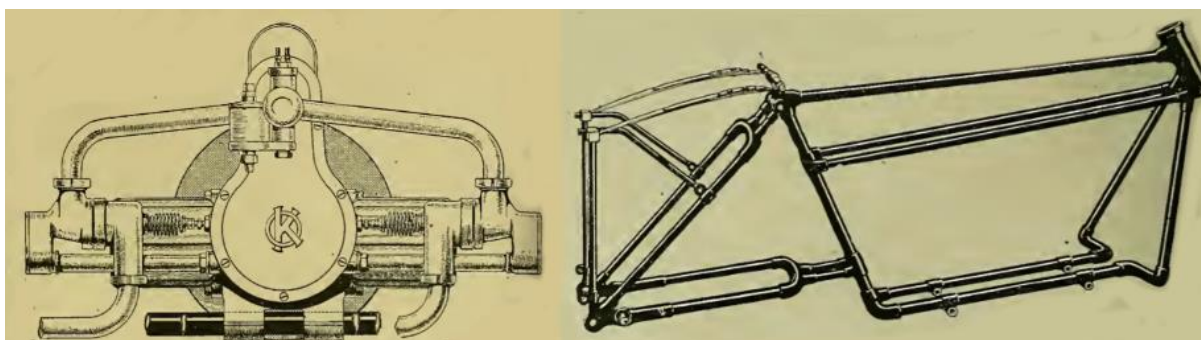
“An Indian sidecar outfit used by an American dealer for hauling motor cycles from the Hendee factory to his stores.”

“A SIDECAR OUTFIT HAVING BOTH rear wheels driven is the subject of a patent taken out by Mr WFJ Simpson, of Reigate, Surrey...Both rear wheels are sprung, and, it is claimed, both wheels retain their relative position to each other by means of a link motion, thus avoiding strains on their respective frames. The sidecar wheel is driven by an ‘axle’ shaft, which is connected to the rear wheel of the cycle through a differential which is carried in the hub of the motor cycle wheel, and, if the sidecar is detached, it may be locked up, thus permitting the machine to be used as a solo mount.”



“A patented sidecar chassis with driven wheel and differential.”

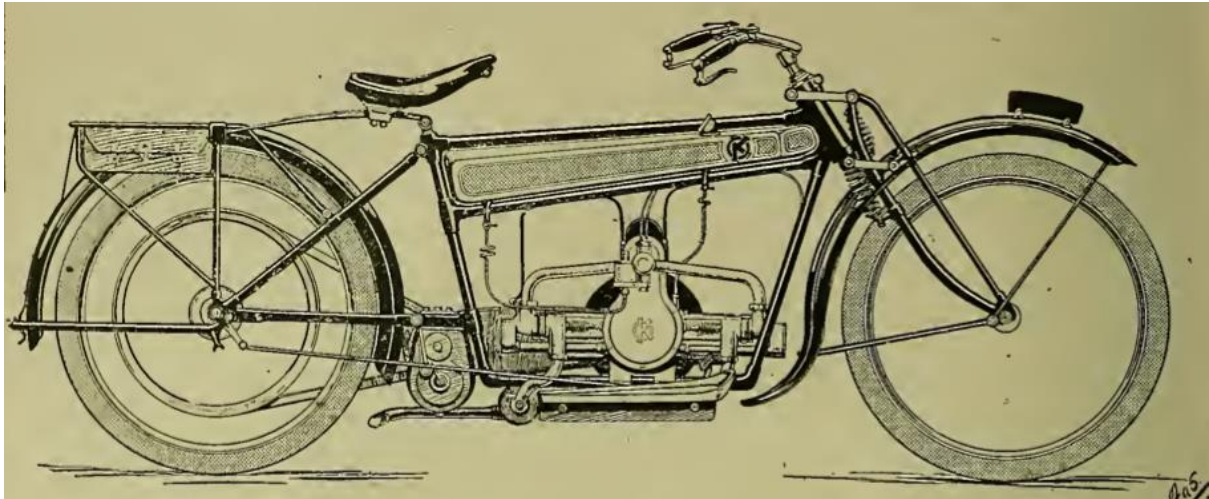
“A NEW MODEL FLAT TWIN intended for solo work will shortly be introduced to the motor cycling public by the makers of the OK lightweight. This machine has been designed and is being produced by Messrs. Humphries and bawes in their own factory, and will mark the entry of this firm into the motor cycle manufacturing field as distinct from that of assembling. The war has wrought many changes, and it is necessary to obtain a different perspective of the various makes and makers from that of pre-war days. Nearly every motor cycle manufacturing firm has considerably extended its factory during the last four years, while some have entirely outgrown the popular conception of their standing. It is permissible, perhaps, to class Messrs Humphries and Dawes in this latter group, as while, before the war, their average output of motor cycles was



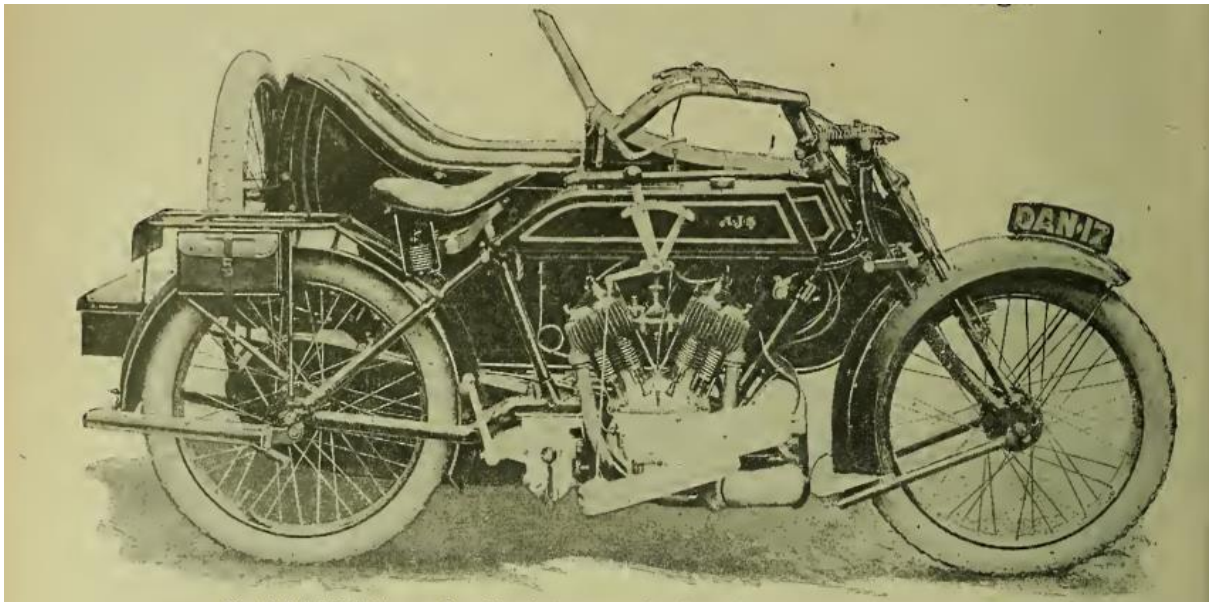
“The 2¾hp OK flat twin engine has overhead inlet valves. Every tube in the OK frame is straight.”

comparatively small, their extensions during the past few years have increased their production capacity to between 200 and 250 machines per week. The new proposition is a flat twin solo machine, which has been designed with a view to meeting the requirements of a large section of the riding public at home and abroad. The first essential of the colonial machine is ample ground clearance, and on this point the new OK certainly scores with 7in clearance, while large tyres are another Overseas demand. met in the new OK by 26×2¼in wheels, which on a 350cc lightweight may be regarded as

ample. Straight tubes are used throughout the frame which is of the duplex type and features combined sheet metal undershield and footboards. The latter are covered with aluminium and are shaped and beaded at the edge...Details are not available of the gear box, but we understand that it will be of the two-speed constant mesh type, embodying kick-starter and clutch. The transmission will be by chain to gear box, and final drive by $\frac{3}{4}$ in belt. The tank will have a capacity of two gallons.”



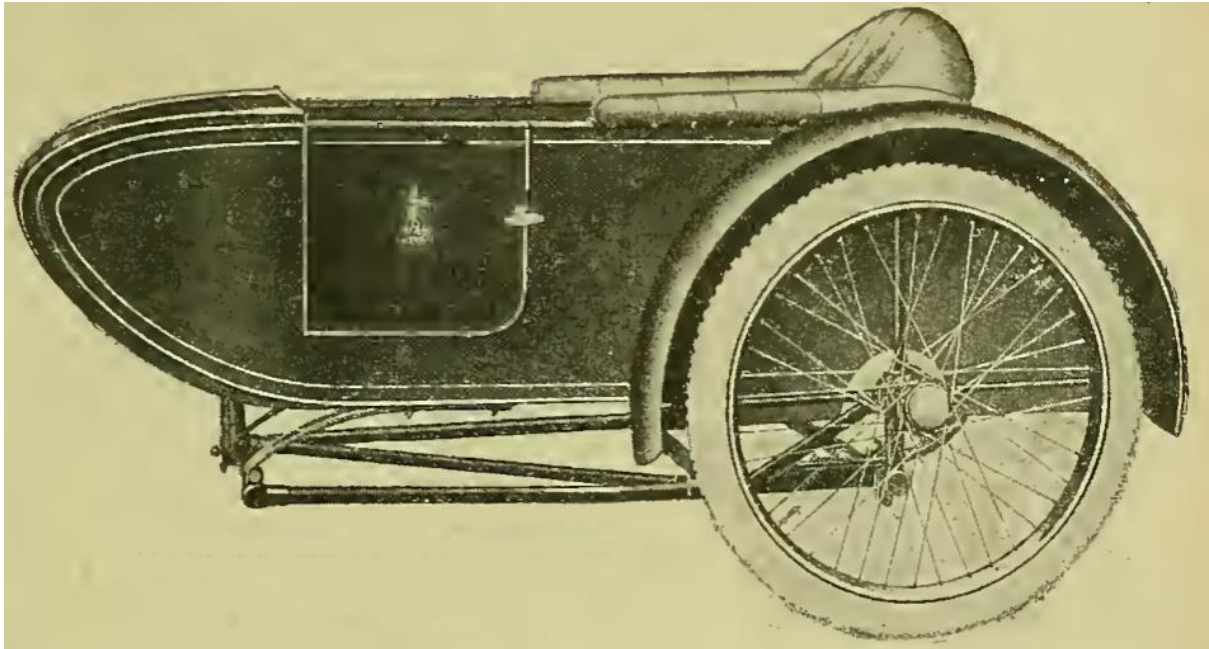
“The new 2 $\frac{3}{4}$ hp OK flat twin as it will appear when complete.”



“It was first announced that the 1919 6hp AJ S would be the military model ‘improved in minor details’; but the sum total of these alterations makes the machine as much a new design as most show models at past Olympias.” Upgrades included detachable heads, a more effective valve lifter, quieter timing gear and neater exhaust.

“THE EMPIRE SIDECAR IS NOT SO WELL KNOWN to the riding public as it is to large producers of sidecar outfits. Before the war the bulk of the Empire output was absorbed by trade requirements, and during hostilities several thousands of them were supplied to the Government for Triumph and BSA, machines. From this it will be gathered that

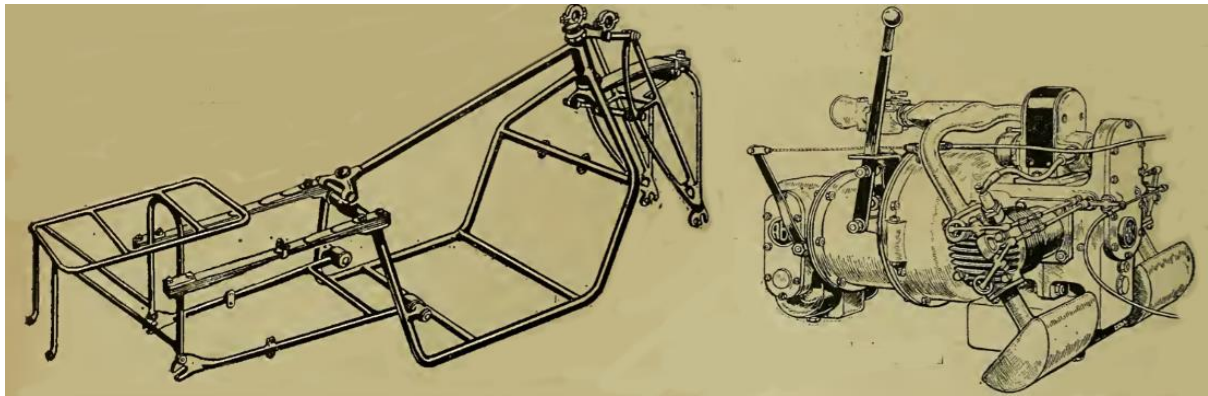
Messrs Lowe's Empire Sidecar Co has a larger output than is usually realised. The Government has not entirely released the company to resume their normal business, but have sanctioned their making a certain number for the public. The military model sidecar is built under a patented process, all panels being of special hydraulically-pressed close annealed steel. The design is most pleasing and the general finish considerably above the average, in fact, throughout, the sidecar is built for hard service. Designed specially for WD BSA and Triumph machines on active service, the chassis is particularly sturdy in construction."



"In every way the military model Empire is a first-class sidecar, and one which can be quickly attached and detached."

"THE FIRST IMPRESSION ONE RECEIVES of the new ABC is that it is designed as a motor bicycle. It is no slavish copy of any existing design, but a bold attempt to construct a self-propelled two-wheeler on original lines, but with no suspicion of freakishness. The designer's ingenuity has had full play, and yet, with all its originality, there appears to be no reason why the machine should not be successful in every way. Probably the first characteristic of the machine which strikes one is the lack of void spaces between wheels and frame and about the engine. It is a motor cycle designed around an engine gear unit rather than an over-developed bicycle fitted with an engine, and the result is most pleasing to the eye. It requires attention at one point, however, to make it conform to the ideals of a large coterie of all-weather riders. We refer to the mudguarding and the chain cover. We think the rear guard would be improved by the extension of the valance between the chain and the tyre, and that a totally enclosed chain would be better than the three-quarter guard shown on the model illustrated...Mechanically minded readers naturally turn first of all to the engine or, rather, the power unit, for in the new ABC the

engine and gear box are in one...the cylinders are placed athwart the frame, but this does not render the machine unreasonably wide...The valves are of the overhead type,



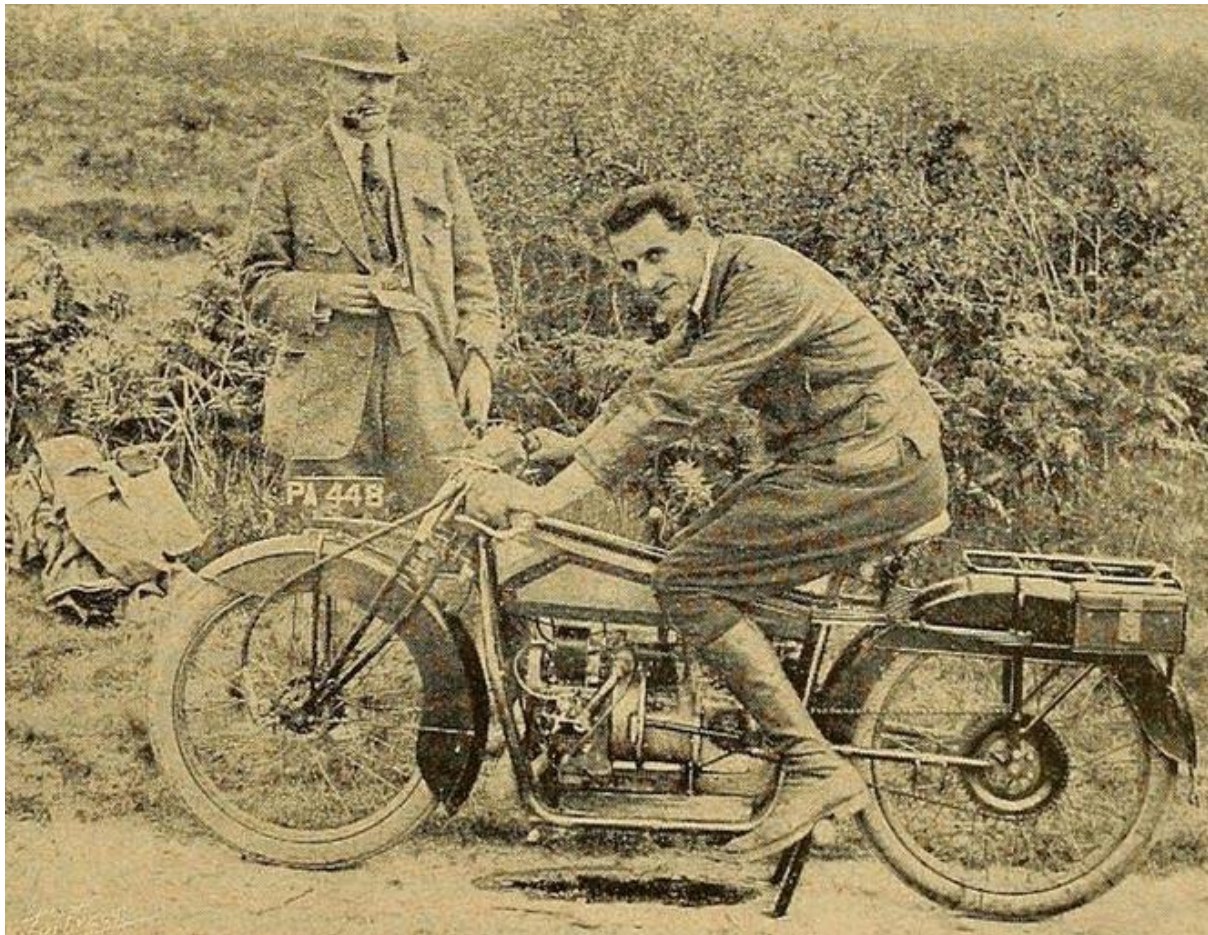
“Showing the frame design and the front and rear springing system. The power unit, showing position of the dynamo under the crown wheel casing.”



“The new spring frame 3hp ABC, the engine of which is a flat twin fitted transversely in the frame. Many of the features are revolutionary, yet the ensemble is decidedly attractive.”

made of unbreakable steel, with volute springs in place of the more usual helical type. At first sight, there is a tendency to regard such items as tappet rods and rockers as being of exceedingly light construction and possessing very small wearing parts, but it must be borne in mind that in the design of the new ABC lightness, as much as power, has been taken into consideration, and efficiency has been the watchword of the firm...A dynamo will be carried below the crown wheel casing, and behind it there is just room for the battery. A kick-starter will be provided for all models. On the undershield are mounted two aluminium plates upon which the driver's feet rest. Throughout the design points of convenience have been well studied, and every care has been exercised by the manufacturers to leave nothing undone for the rider's comfort. An idea suggested to us by Mr Bradshaw, which he may carry out, was the fitting of a toolbox underneath the crank case containing two drawers in which the tools are let into the solid wood, so that it is impossible for them to be damaged by rattling one against another. The weight of the machine without fuel is 175lb, and overseas purchasers will be interested to hear that the ground clearance is 6½in. We cannot refrain from

congratulating Mr Bradshaw on the excellent design engine, and, indeed, of the whole of the and wishing the Sopwith company success In its enterprise.”



The ABC quickly proved itself off the road too: “J Emerson (3hp ABC), put up a good performance at the recent Stile Cop hillclimb and was in Edinburgh next day for the Scottish Six Days’ Trial on the latest ABC. Standing is Mr FS Whitworth.”

“OUR US CONTEMPORARY, *Motor Cycle and Bicycle Illustrated*, announces the new ABC in the following headline: “Four Speeds—50lb—160 Miles per Hour.” [Yes of course the ‘160mph’ was a typo but the Blue ‘Un boys were always happy to have a pop at their colonial counterparts.]

SOPWITH WASN’T THE ONLY AVIATION specialist to take an interest in motor cycles after the war. Harry Hawker produced a 293cc two-stroke and fitted 347 and 498cc sidevalve Blackburne engines. He raced bikes too, famously arriving at the startline in his Rolls Royce where his bike awaited, already warmed up by his mechanics. Martynside built its own 346cc single and 498 and 676cc EOI V-twins. Over the Channel Bleriot took to bikes with sv and ohv 498cc vertical twins. Like ABC, Hawker, Martinsyde and Bleriot motor cycles had gone by the mid-twenties. However Gnome & Rhone did better. As well as the 398cc Bradshaw Gnome built A 498cc version of the ABC under licence with notable racing success. It outlasted ABC and the other aviation companies,

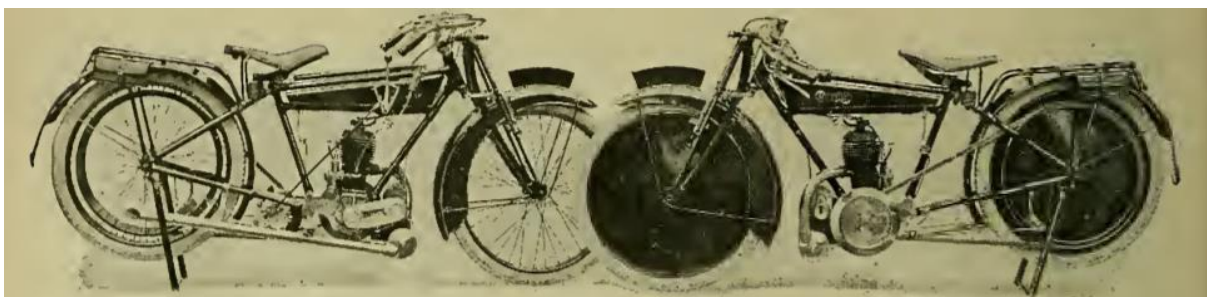
producing 306, 344 and 498cc singles, followed by 495 and 745cc transverse flat twins in pressed-steel frames and 124 and 174cc two-strokes, surviving until 1959.



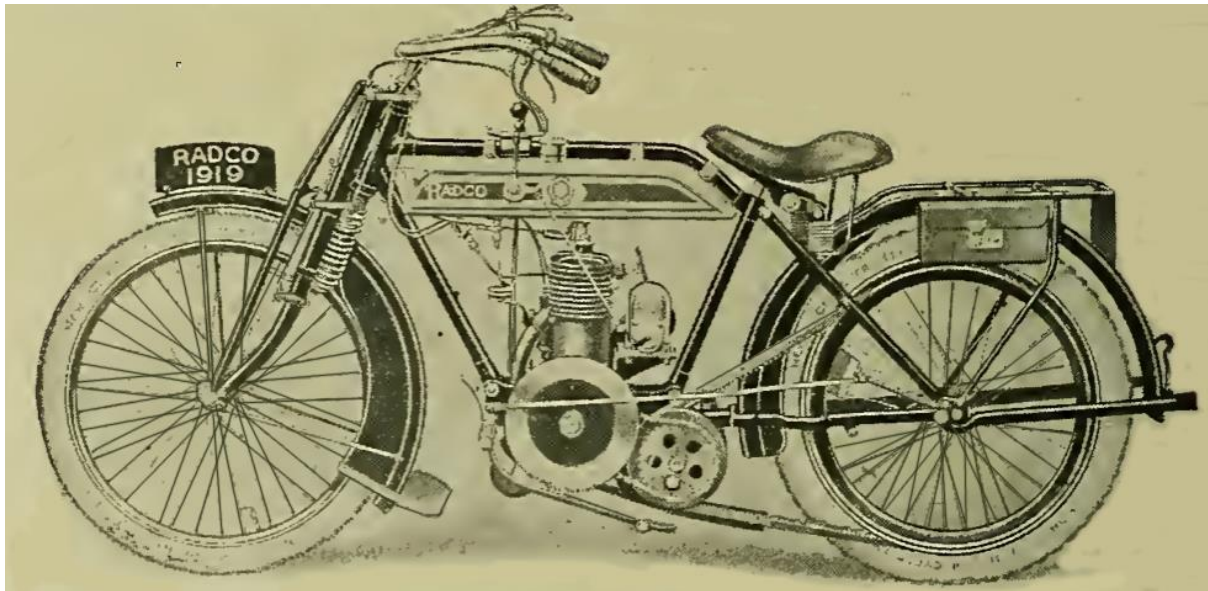
From planes to bikes: When Martinsyde went under Bat bought the factory and the name. Hawker, which had been set up by Tommy Sopwith (and named after his chief test pilot), stayed in the aviation business, which would be good news for the RAF and bad news for the Luftwaffe.

“IT WOULD APPEAR THAT THERE is a promising market for English motor cycles in Spain. The actual number of machines now in that country cannot be given accurately at the moment because the Government has only just insisted upon a complete registration, but there is no doubt that the number is increasing rapidly, though unfortunately, from the British point of view, the majority of machines reaching Spain have necessarily, during the past four years, been of American origin, chiefly Indians and Harley-Davidsons. Previous to the war, however, the better known English makes, such as the Douglas and Triumph, were greatly favoured.”

“MOTOR CYCLES IN THE USA: There are over 20,000 motor cycles in use in the State of Ohio alone. It is expected that this figure will be increased by 50% during 1919.”



The Tyler Apparatus Co and Metro Two-stroke Co teamed up to produce the 296cc Metro-Tyler. There were two models: A two speed tourer (left) and single-speed touring model with dropped bars and disc wheels.



Radco's first post-war model was little changed from its 1914 offering with a 2¼hp and optional two-speed gear. The major upgrade was a move from the company's own front fork to a Druid.

“SURREY MCC: IT IS NOT LIKELY that this club will be restarted as yet, owing to most of the members being still in the Forces, and there are no signs of their being demobilised at present.”

“MATLOCK & DMCC: AS THE MAJORITY of the old members of this club are serving with the Forces, it has practically become extinct. Here is a chance for some local enthusiast to organise a live sporting club.”

“A LABOUR MOTOR CYCLE CLUB: We hear of a new motor cycle club in formation in South London in connection with a Labour club, composed of engineering trade unionists and others.”

“CUMBERLAND COUNTY MCC: WE HEAR from the treasurer, Mr WB Anderson, West Walls, Carlisle, that as most of the members are still in the Army, nothing has yet been done towards re-forming the club.”

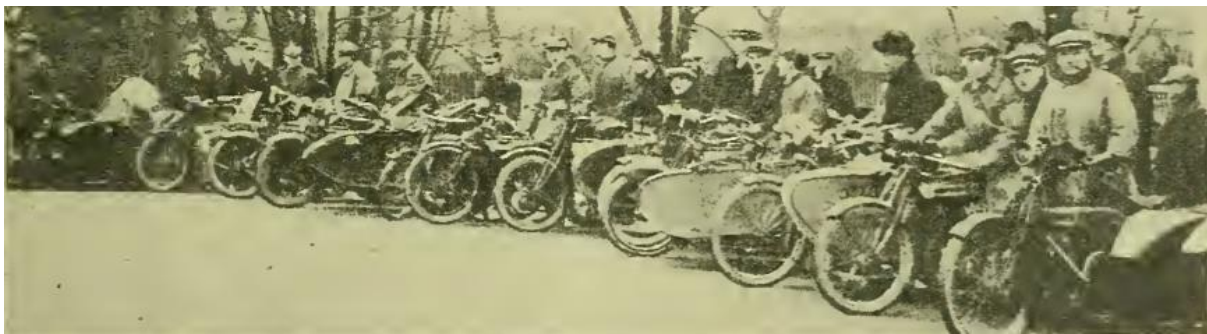
“WAKEFIELD MCC: IT HAS BEEN DECIDED to re-open this Club, which was closed down ‘for the duration’, and an attractive programme is being arranged. About twenty new members have been elected already. The hon secretary, Mr SE Wood, 186, Stanley Road, Wakefield, will be glad to hear from prospective members and others interested.”

“THE MCC: THE LARGEST AND MOST IMPORTANT smoking concert ever organised by the Motor Cycling Club will be held at the large Queen's Hall (which will hold between 1,500 and 2,000 people) on March 21st. A number of first-class artistes will be engaged, and those who intend to be present may look forward to a most enjoyable evening.

Members of the MCC and of other motor cycle clubs, may invite their friends and lady friends.”

“THERE IS A UNION IN EXISTENCE—a real fighting organisation (as will be proved in the near future), known as the National Motor Cyclists’ Fuel Union, with branches in every town. It is composed of working men, and intended to look after their interests. The union is there: what is wanted is for motor cyclists to join, and so provide the force to fight. The more we have, the more ideas we have to work on, and, speaking for the Executive, the more work we have the better we like it. The NMCFU is affiliated to the ACU, and these two unions are prepared to go the whole way.

T MALLALIEU, Honorary Secretary, Coventry Branch.”



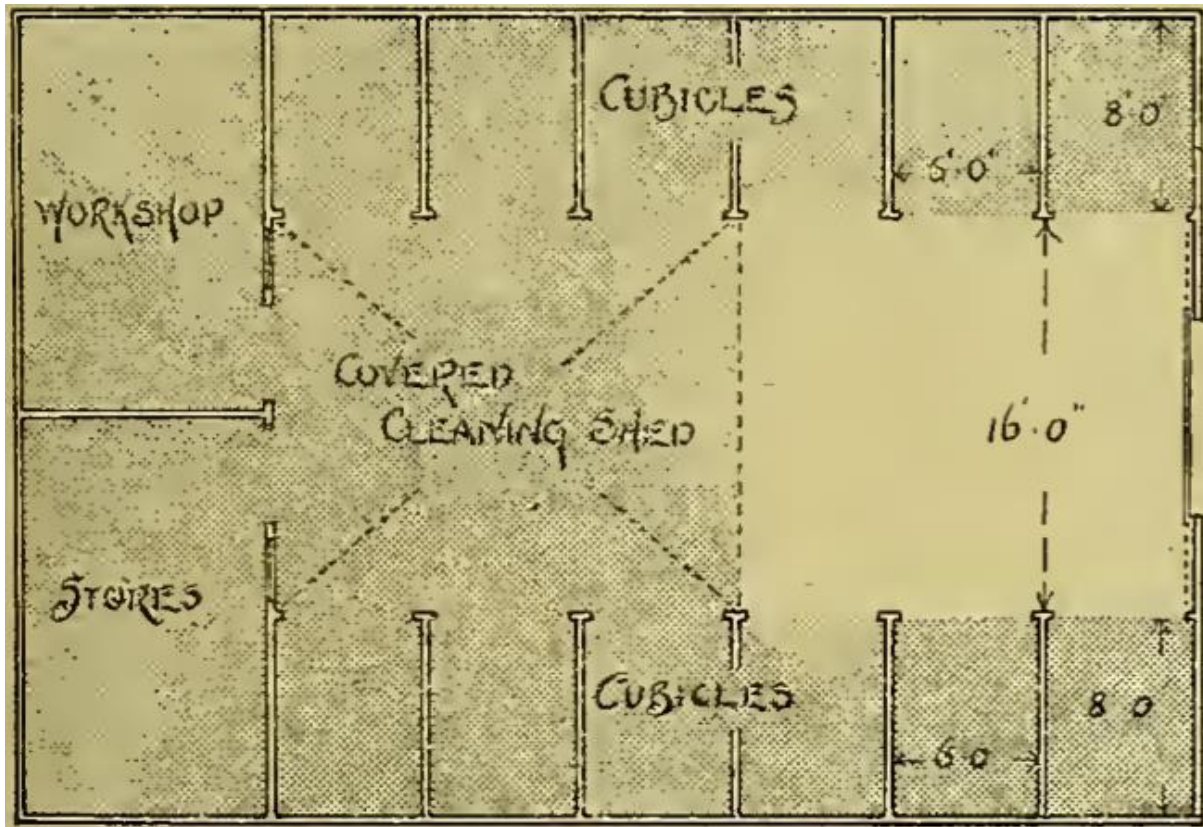
“The meeting of the Birmingham and Covenly branches of the National Motor Cyclists’ Fuel Union at Stonebridge. Many new machines were in evidence and freely criticised.”

“WHICH ARE WE TO BE GIVEN—refined motor cycles or cheap motor cycles? At present, production in the motor cycle industry seems to be solely devoted to models of novelty and refinement. Refinements increase while initial cost is neglected. Do manufacturers appreciate that there are two markets, of which the buyers of a cheap machine, if produced, are by far the greater in number, and yet at present they cater almost solely for the buyer of the refined motor cycle? Reliability has come and come to stay. Now let us have cheapness. We hope and trust that manufacturers will not neglect this vast, untapped market. Let them add to the present reliability the vital necessity of cheapness, and they will find that the market is both lively and large. Surely they can see what success the Ford car has obtained from cheapness and reliability.”

“IT MAY SEEM ABSURD on the face of it to advance the claims of China as a country likely to be interested in motor cycles, especially as British organisation in our Dominions is not yet perfect. It is significant to learn, however, that Dr. Chao-Hsin-Chu, BCS, MA, Consul-General of the Republic of China, was a recent visitor to the Hendee Manufacturing Co. There he expressed views on the tremendous advance his country is making, and advised business men to establish trade relations with Chinese merchants direct rather than through Japanese channels. Many thousands of motor cars are now being imported into China, and sooner or later motor cycles will be common in the big towns. Who will be the pioneers, the Britisher or the American?”

“SIR,—THE POSSIBILITIES OF COMMUNAL GARAGES appealed to me very much, and being connected with a union having a local membership of 800 I lost no time in bringing the subject forward, with the result that we placed it on our immediate programme, and anticipate having at least one communal garage in each district, where each member can have his own cubicle, a covered-in shed for common use to clean and make other necessary adjustments from time to time, and a stores where motor fuel, oil, and other accessories can be obtained as required; also, a well-equipped workshop, where any small replacement can be made, will be added where circumstances permit. This is rather an ambitious programme, but with the organisation we have already in Sheffield it should be fairly easy of accomplishment. We already distribute benzole on these lines, having one or more stewards in each district, who receive the benzole and distribute it locally. These stewards would have charge of the stores and workshop. It would scarcely be necessary to stock more than, say, 100 galls, of benzole, 10 galls, of oil and one tyre each of the sizes mostly asked for, as it is only a question of a few days to obtain renewals and other accessories. Those of our members who do not need a cubicle would have the benefit of communal trading in motor fuel, oil, and other accessories, the use of the workshop, and cleaning appliances, etc; last but not least the advice and help of the experts who are always found in every group of motor cyclists. This matter has been fully discussed and will be commenced as soon as we settle the details of expenditure, etc. In outline I imagine the plan of the communal garages as in the accompanying sketch.

W WRIGHT, SHEFFIELD.



A collective approach to motor cycle storage and maintenance.

"SIR,—I HAVE RECENTLY BEEN in communication with two of the leading motor cycle dealers, namely. Rider Troward and Godfrey, and both have informed me of the discontinuance of their gradual payment systems, both stating that this is due to the shortage of second-hand machines. This action will rob many ex-soldiers of the joys of the open road this forthcoming summer at least. Returning from Army life with only a few pounds in their pockets, many must be left to gaze enviously at the munition worker with his £140 combination, whereas the continuance of the gradual payment system would have given them opportunity to get hold of a modest 'bus and enjoy the delights of motor cycling. During the past two years, whilst the restraining hand of 'Dora' [Defence Of the Realm Act] has been upon us, dealers have been only too glad to sell on any terms, and many munition workers and such have been paying towards the purchase of a mount, but we unfortunate souls who were in khaki had no opportunity of this, and now, when at last we are able again to take up the threads of a peaceful existence, up go the prices, and the schemes that would have enabled us to materialise our long-looked-forward-to dreams have vanished, and we are left kicking about 'busless' whilst our more fortunate brethern are speeding away on the roads and over the country for which we did our humble best.

FEHB, MANCHESTER."

"EVERYBODY ADMITS THAT CRIME is on the increase," Ixion asserted, "especially amongst juveniles, who have been relieved of salutary discipline by daddy's absence on

active service. Yet this is the time selected by the police authorities to pester the small handful of motorists with a type of surveillance which was always silly and apt to be ridiculous in its incidence. One might as well instruct a fire brigade to patrol the streets watching where smokers threw their matches, and leaving an empty fire station to receive brigade calls. The average motorist frankly despises the legal speed limit, which is a piece of camouflage invented by dishonest politicians to smooth down ignorant prejudices. It was never intended to be enforced, and cannot be enforced. It leaves the public just where they always were the commonsense of individual drivers, who generally know that 10mph is quite as often legal but dangerous, as 30mph is illegal but safe. This tongue-in-the-cheek legislation is now foolishly exploited by certain police areas to the neglect of far more urgent duties, and for the profit of local funds. It is high time that this obsolete regulation was replaced on the statute book by a 'dangerous driving' regulation. In the meantime, authorities who exploit it show that they misinterpret their responsibilities."

DECADES BEFORE SIDESTANDS BECAME UBIQUITOUS, Ixion wrote: "A few months back a medico discoursed very interestingly in our columns about his ideal motor cycle. It struck me that on the whole he was trying to compress the Yankee ideals of complete equipment into the dimensions of a baby two-stroke, and that he would be lucky if his steed scaled much under 3¼cwt. But I relished much his suggestion of a folding prop on the near side of the bus. Whenever we stop with a standard machine three alternatives confront us, and each is unpleasant. If there is a wall handy, we try to balance the jigger against it, which often necessitates buck-jumping 3cwt up a 6in kerb. As we depart the machine begins to slide away, scrapes the levers off one end of the handle-bar, and then stabs its tank heavily with the inside grip. If the stop occurs in the country we discover a hump by the edge of the road and balance the jigger against it. We turn away to light a pipe, and the footrest eats through to the base of the soft mud hump. The machine side-loops noisily into a ditch full of manure and nettles. Educated by such experiences we finally learn to use our stands."



"The opening run of the Woolwich Plumstead & DMCC: Members at the Three Horse Shoes, Knockholt. Douglas, Matchless, Harley-Davidson, and Triumph outfits, also a Morgan, were among the makes represented."

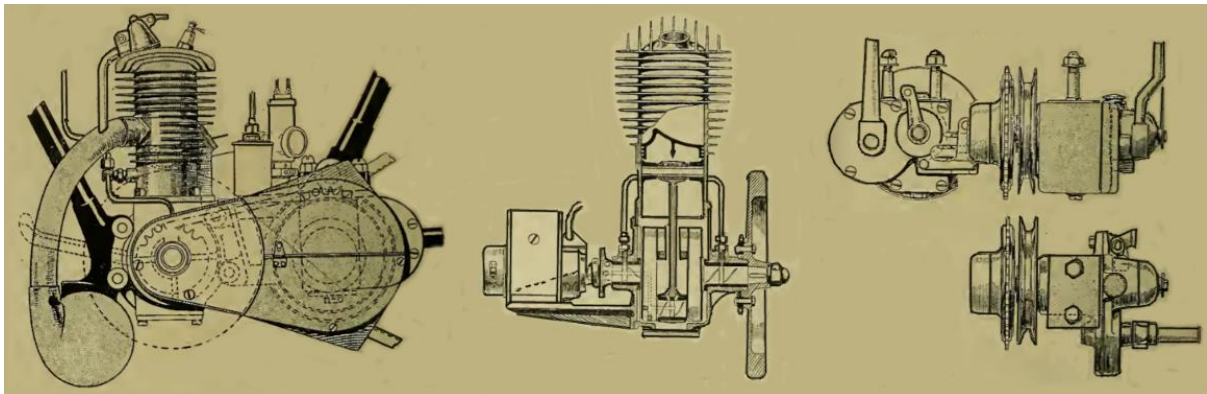
“DEAR ME, IXION MUSED. “What times we live in. Zeppelins that rather enjoy being perforated by ten drums of ‘tracer’. Pocket telephone receivers, on which you’re to be rung up by wireless from Hong Kong whilst climbing Beggar’s Roost. Dreadnoughts which can’t be torpedoed. Tyres which don’t puncture. If any big inventor is hunting round for some unsatisfied public need, let me say I am prepared to pay through the nose for a bottomless purse.”

“WE HAVE POINTED OUT THE NECESSITY for some combined action and universal agreement on the matter of the horse-power rating of motor cycles. At the present time, although a certain amount of agreement exists with reference to one or two popular sizes, every manufacturer is a law unto himself, and consequently nominal horse-power bears no constant relation to engine capacity. It has become customary to designate an engine of 500cc, or thereabouts, 3½hp, but one engine of 488cc is commonly called 4hp; another (a four-cylinder of 496cc) is rated as 5hp. A certain twin engine of 430cc has been used by several makers, some of whom call it 3hp, others 3½hp. Engines up to 550cc are frequently known as 3½hp, but some years ago a 3hp engine had a capacity of only 353cc. This clearly shows the need for some recognised formula upon which makers shall base the nominal horse-power rating. For several years, we have insisted that a motor cycle in good tune should be capable of producing 1hp for every 100cc of its capacity, and we have suggested that makers should rate the horse-power of their motor cycles upon this basis, which has the great advantages of simplicity and accuracy...It is quite possible for a 500cc to show something like 11hp on a brake test, but it is only very rarely that such a power output would be demanded of it on the road.”

“ON FEBRUARY 24TH IT WAS REPORTED that there were twenty million gallons of petrol imported solely by the Government, apart from aviation spirit and motor transport spirit. There are, moreover, additional stocks of petrol purchased by traders since the Government ceased to be the sole importers, so there is no question of shortage now. How much longer shall we be burdened with the Petrol Control Department, its wretched coupons, and the miserable super-tax?”

THE AUTOMOBILE ASSOCIATION ISSUED a circular to its members: “While every possible means of relief is being vigorously sought, it is unpleasantly true that British benzole, every gallon of which should be used in Britain, is not being so used. Worse, vast quantities are being exported. This is a national calamity. Producers are not to blame. Distribution difficulties are acute; drums and tins are scarce. Co-ordination of supply is wanting. The National Benzole Association has been formed; its leaders are earnest businessmen. They tell us plainly that home-produced benzole shall be conserved to the use of British motorists if organised British motoring will do its share. A standard specification has been prepared; all the responsible benzole producers will conform. It is at once our national duty and to our common interest to use benzole. Distribution is a knotty problem. It is being solved. Meanwhile, let us all make a start in

however small a way. Buy British benzole always through your local AA agent. We can help you—we will help him. Buy benzole in fifty-gallon drums and keep it twenty feet from a dwelling place. The regulations are not difficult to comply with. Alternatively, get the local AA agent to store it for you. A large supply of fifty-gallon drums has been secured by the AA which can be hired.”



RS Whaley, who had been connected with a number of motor cycle companies, designed a long-stroke (69x78mm) 292cc unit-construction two-stroke that was rated at 2¾hp but had been bench tested at 5bhp. The two-speed box and carb were also designed by Whaley. “This engine will be marketed as a complete unit suitable for building into even the smallest lightweight frames, and at a very reasonable price.”

“CONSIDERING THAT THERE ARE only a few motor scooters in this country, *The Daily Mail*’s announcement that a race for scooters is being arranged, appears to be rather absurd.”

“ARE WE TO ARRIVE at the genuine lightweight motor cycle via the scooter? We feel convinced that those who now show enthusiasm for the motor scooter will sooner or later—most probably sooner (!)—demand a seat. It would be quite a sensible demand too! Having obtained a sitting position, we have the lightweight motor bicycle.”

“A MOTOR CYCLIST-CAR DESIGNER: The announcement of a new British sporting car to be designed by Captain WO Bentley, MBE, RAF, was made in last week’s *Autocar*. Captain Bentley will be recalled as one of three brothers Bentley, all one-time enthusiastic motor cyclists, who occupied prominent positions in the competition world some years ago.”

THE AMERICAN ARMY ended the war with 34,800 motor cycles.

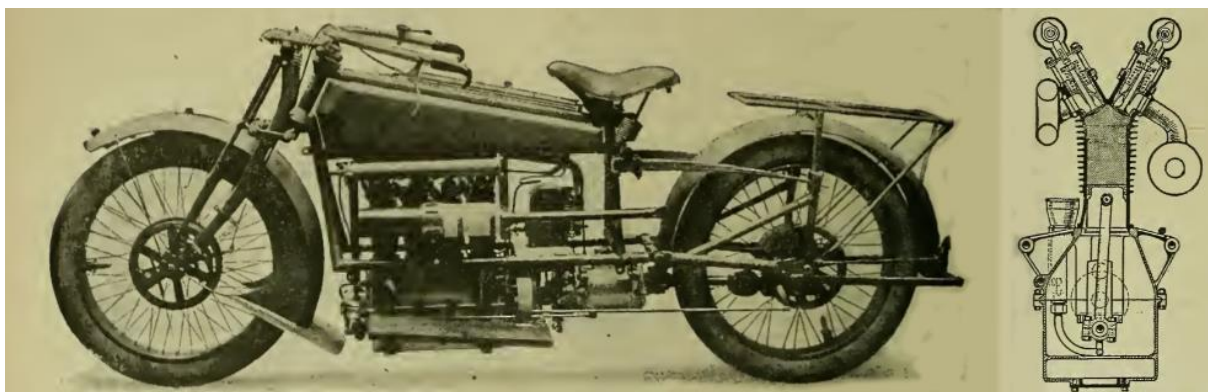
THE US AUTOPED, DESIGNED DURING the war as cut-price ‘austerity’ urban transport, led a short-lived fashion for scooters. Like many of its followers the Autoped lacked a saddle, looking more like a powered skateboard with handlebars than a motorcycle. Major users included the US Post Office – and teenage tearaways who became adept at riding their Autopeds down narrow alleyways to escape pursuing police cars.



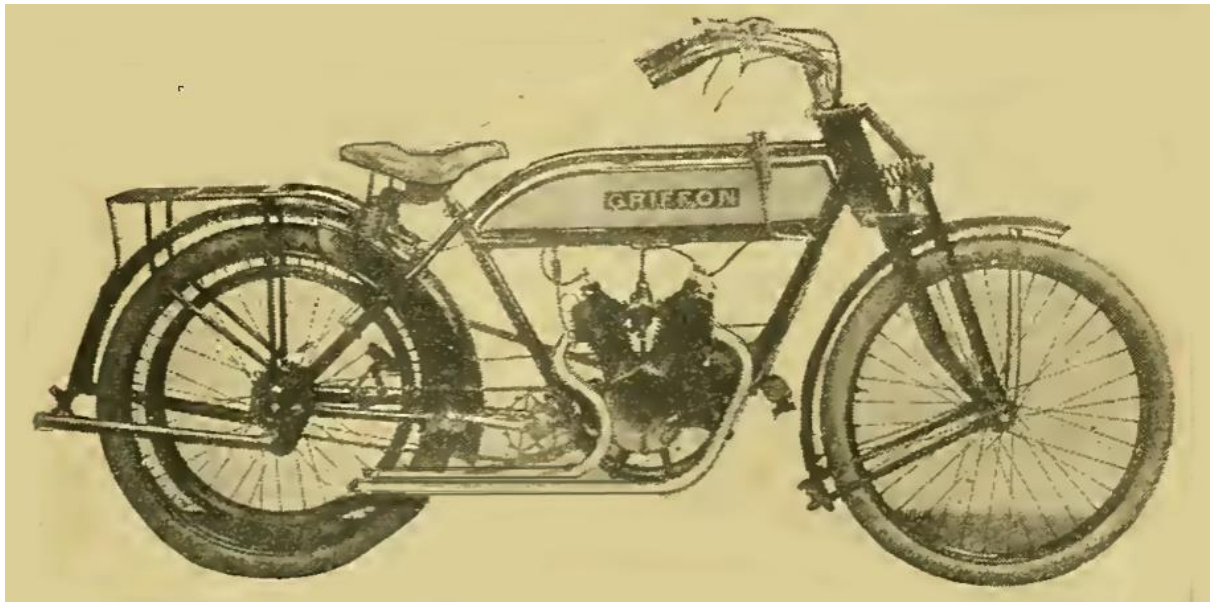
The Autoped must have been a godsend to American postmen.

“NEARLY A HUNDRED YEARS AGO the making of a Channel tunnel was discussed, and now once more an intense interest has been focussed on the project. All the plans are ready for the work to commence immediately, and only the Government’s consent is needed.”

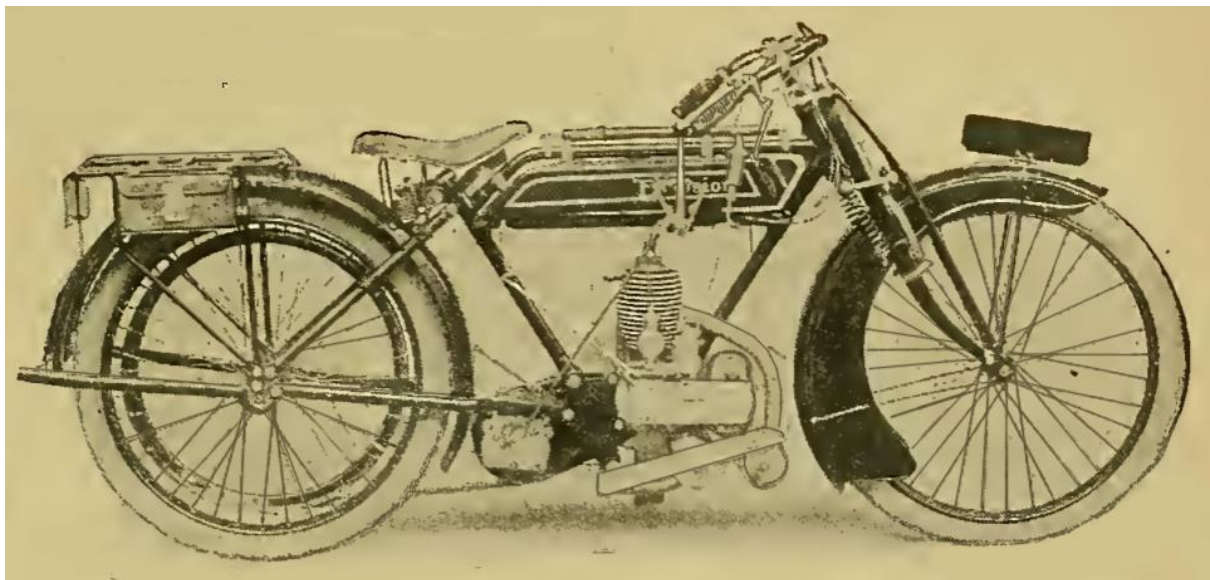
“AT A MEETING OF THE RAC AND ACU Joint Committee...it was decided that in future ‘motor vehicles with three wheels or less shall be deemed to be motorcycles all other motor vehicles shall be deemed to be ‘motor cars.’”



Nottingham engineer RG Baird wasn’t the only enthusiast to build his own bike—but he clearly didn’t do things by halves. Rather than buy a proprietary engine he designed and constructed a 760cc DOHC four with car-style horizontally split crankcase; the camshafts were driven by spiral gears from the half-time shaft. Transmission was via a three-speed box and shaft drive.



“The peace model Griffon, exhibited at the Lyons Show. It is a lightweight twin, which does not appear to compare favourably with the latest British machines and has all-belt drive and pedalling gear. It will be noted that no silencers are fitted.”



“One by one the well-known makers are re-entering the field with new or revised models to satisfy immediate demands. The first of the 1919 British Excelsiors to materialise is a Villiers-engined lightweight. This is the first time an Excelsior has been marketed with a Villiers engine.”

“FEW ITEMS IN THE MOTOR CYCLIST’S equipment are more important than the tool kit. It is essential that the owner of a motor cycle should have enough tools of the right quality to enable him to make any adjustments which may be found necessary from time to time. In the past, the motor cycle makers have got into disrepute owing to the inadequate tool kit they supplied with their machines, but, at the present time, there is a decided tendency among manufacturers seriously to consider this question, and very few, if any, additions will be required to complete the tool kits on future

machines...Hundreds of machines are changing hands just now, and quite a large number of them have been bought and sold many times, it is probably true that fully 50% of present-day motor cyclists will require to purchase new tools, because it is not uncommon for a rider to retain the best of his kit on selling his machine. For these reasons, the three tool kits illustrated here will be of interest."



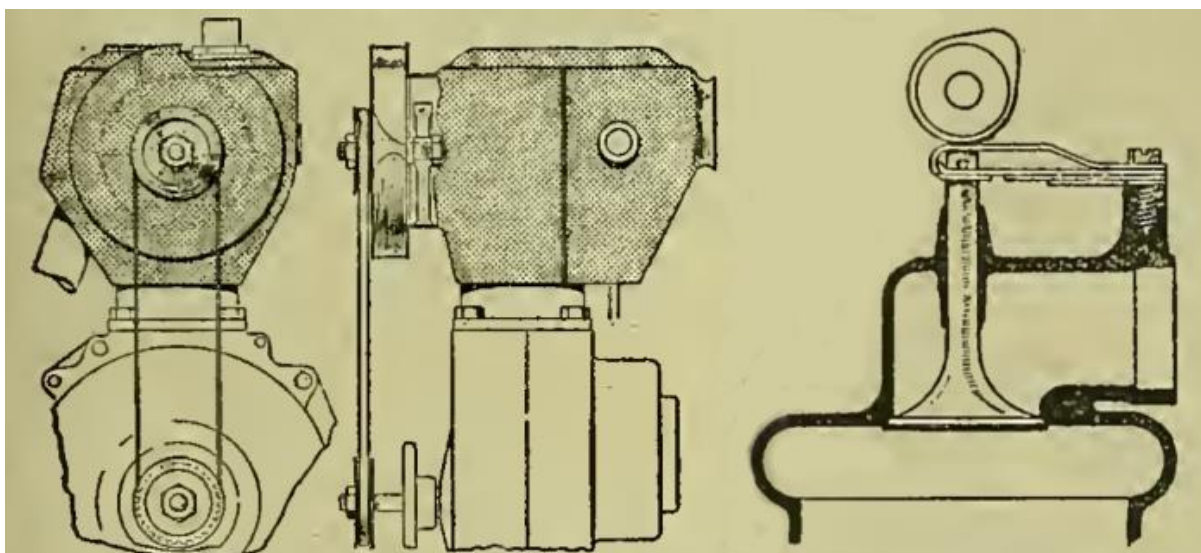
From left: "Maude's Motor Mart—The C spanner is by Abingdon-Ecco, the cycle spanner is a genuine BSA, and the adjustable wrench a Lucas. The pliers, screwdriver, file, and the other two spanners, also appear to be of first-class quality; there are plans for 3/16, 1/4, 5/16, 3/8 and 9/32in box spanners with a screwdriver tommy-bar. Messrs Jenks Bros—The kit includes two tyre levers, an excellent pair of combination pliers, a screwdriver, three box spanners, a punch, and an ordinary large adjustable spanner, while in the pocket provided there is an oilcan, etc. Tuck and Blakemore—Includes two adjustable spanners, pliers, reversible screwdriver, box spanners, file, punch, tyre levers, oilcan, and belt punch."

"MOTOR CYCLIST'S LOSS OF NOTES: Despite advertised rewards, CR Collier has obtained no tidings of a bundle of notes, value £116, that he lost after the sale of a motor cycle at Plumstead."

"UNUSUAL INCIDENT IN DUBLIN. Two RAF lieutenants had an unpleasant experience recently in Dublin. They were being driven in a sidecar by a sergeant of the RAF when they came into conflict with a crowd watching a funeral cortege. Misunderstanding the instructions of a constable on point duty, the sergeant did not stop, and the onlookers expressed themselves very strongly on what they considered to be an intrusion among the mourners. The sergeant was dragged from the machine, and sticks were brandished over the heads of the officers. Some members of the crowd took the machine to the quay wall and dropped it into the Liffey."

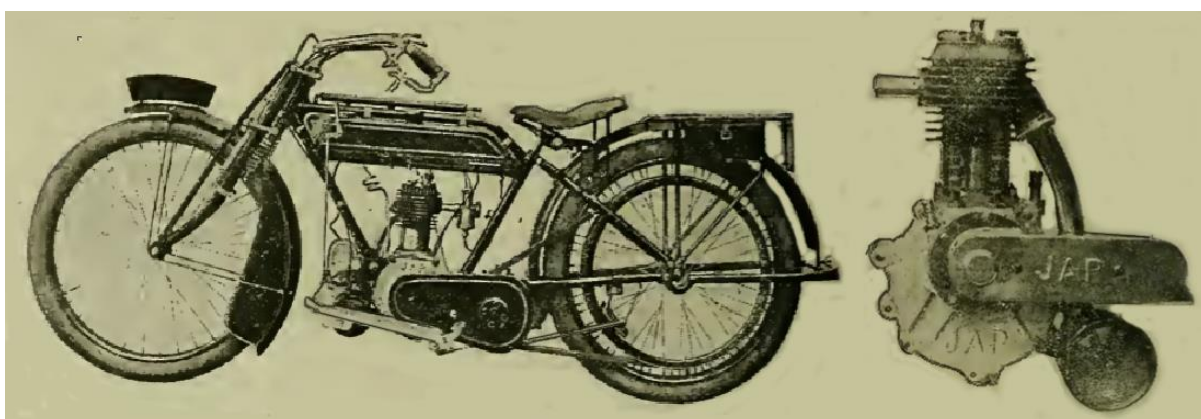


IF THE FOLLOWING REVIEW OF PATENTS strikes you as delightfully whimsical it's because it was written by BH Davies whose nom de plume was, of course, Ixion: "A few years ago there was a regular craze for a hobby known as 'bent ironwork'. Enthusiastic amateurs purchased bundles of strips of soft iron, a pair of shears, and a pair of flat-nosed pliers. They then proceeded to turn out candle-holders and easels for photographs, which they presented to meek i-elations or dumped on unsuspecting bazaar committees. A crop of homicides followed, because, although such orna- ments were beautiful when suitably gilded, it was quite impossible to keep their twined interstices clean, and irate housewives were consequently led to break up many happy homes. The motor cycle will ultimately perish for similar reasons, unless something is done to round off its innumerable spiky projections. Up to date, Mr RW Coan has ploughed a lonely furrow, in advertising 'Clean Crank Cases'. Now Mr Norton comes to his aid with a patent for cowling in the top half of the engine. Fundamentally, of course, Mr Norton's suggestion is of technical value. The rear wall of an air-cooled motor cycle cylinder lies in a patch of dead air. As the sketch shows, Mr Norton pro poses to fit a belt-driven fan at one side of the engine cowling, and the rear wall of such a cylinder will be as well cooled as the front. He should presently offer us a cylinder cooled so evenly that distortion is imperceptible; needless to say, no motor cyclist has ever owned an engine of which this could be said. Riders will egually appreciate the ease of cleaning which such a design confers...IN THE EARLY DAYS of motor cycling my chief hoodoo was the valve gear. It was a common occurrence for the timing pinions to strip their teeth, and one rider lost a fine chance of an End-to-end record because his valve tappets ate through the case-hardening of the cams and ploughed them down into circular discs [the rider was Ixion; the full story, and it's a doozy, is in the End-to End feature appended to 1911 in this timeline]. Rocking levers were presently interposed between the cam and the tappet to distribute the wear and furnish better leverage. I hope the patent under consideration may be understood to herald an overhead valve Norton engine in due course. However that may be, Mr Norton proposes to use a laminated valve spring to act as a cam lever for an overhead valve as shown...THE LAST PATENT IN MY WEEK'S BUNDLE soars so far towards the ideal that it deserts the practical sphere, so far at least as motor cycles are concerned. It is the invention of Mr Alfred Lewis, and when I say that it amounts to an infinitely variable gear, which Automatically changes its own ratios in response to varying loads, every reader's mouth will begin to water. But if I add that this eminently desirable effect is obtained by means of an epicyclic train, which controls a second epicyclic train by means of a friction drive, and I further so on to say, with the Queen of Sheba, that the half has not yet been told you, and that the editor cannot spare me space for the diagrams needed to explain all the cams, springs, etc, concerned, well, the order of the day becomes, 'Carry on with a common or garden Sturmey-Archer!'"



"JL Norton's engine cooling device. Patent No 122,072. 5/3/18...JL Norton's mechanically-operated overhead valve. Patent No 122,379. 24/8/18."

"BAT REDIVIVUS: After having been dormant for several years during the war, the Bat Motor Manufacturing Co is again taking up the manufacture of motor bicycles. Mr TH Tessier will no longer be connected with the firm, but he has been of considerable assistance to it in the process of reorganising, while Mr ST Tessier, his son, will be responsible for the design and production of Bat motor bicycles in the future. Bat motor bicycles have been on the market continuously since 1902, and it is pleasing to note that this well-known name will again figure in the motor cycle world, and that one of the Tessier family, so long connected with this make, will remain a member of the firm. ST Tessier, who has been serving his King and country through the whole period of the war, was a consistent and successful exponent of Bat motor bicycles up to 1914."



A bike and its engine: The peacetime Wolf-JAP used JAP's well proven 292cc 2 1/2hp engine was uprated to 2 3/4hp with more extensive cooling fins and chain mag drive. What's more, "the crank case of this engine is now entirely oil-tight". The Wolf also boasted a two-speed countershaft gearbox with kickstart and clutch, Lion magneto, Amac or Senspray carb, Druid forks, Lycett saddle, aluminium footboards and two

toolbags with a full kit of tools. The Wolf was also available with a 4hp JAP or Villiers two-stroke.

“THE SPEEDS OF THE FUTURE: Before long this old game will reopen, and as we have now got plenty of real engineers in the motor cycle game, and air-cooling has got so far since 1914, we shall see some astounding stunts. There is no reason why the short flying start records should not be fought out with four valves per cylinder and compression ratios as high as $6\frac{1}{2}$ to 1. The cooling will stand it nowadays, and patent fuels, embodying benzole, do not object to super-compression. I know one engine which makes standard aero plugs wilt like tallow candles in a New York summer, and I fancy there will be plenty of fun. But I am sorry for the boys who have to sit these mile-eaters. A flying mile or kilometre is not so bad, though the tiniest hesitation or unsteadiness at 80 or 90mph means immediate death. But the idea of an hour record on two-wheelers at such speeds as are now technically possible is frightful on the very best of tracks; and I am not at all sure that the BMCRC ought to allow long distance motor cycle records at such speeds.”

“COUNTING THE MEMBERS of affiliate clubs, the total strength of the ACU is now 30,000.”

“PETROL PROFITEERING: THE HOME OFFICE has circularised the police authorities throughout the country asking them to do their best to see that the vendors of petrol comply with the requirements of the Petrol Retail Prices Order. Those of our readers who are overcharged should communicate with their local police.”



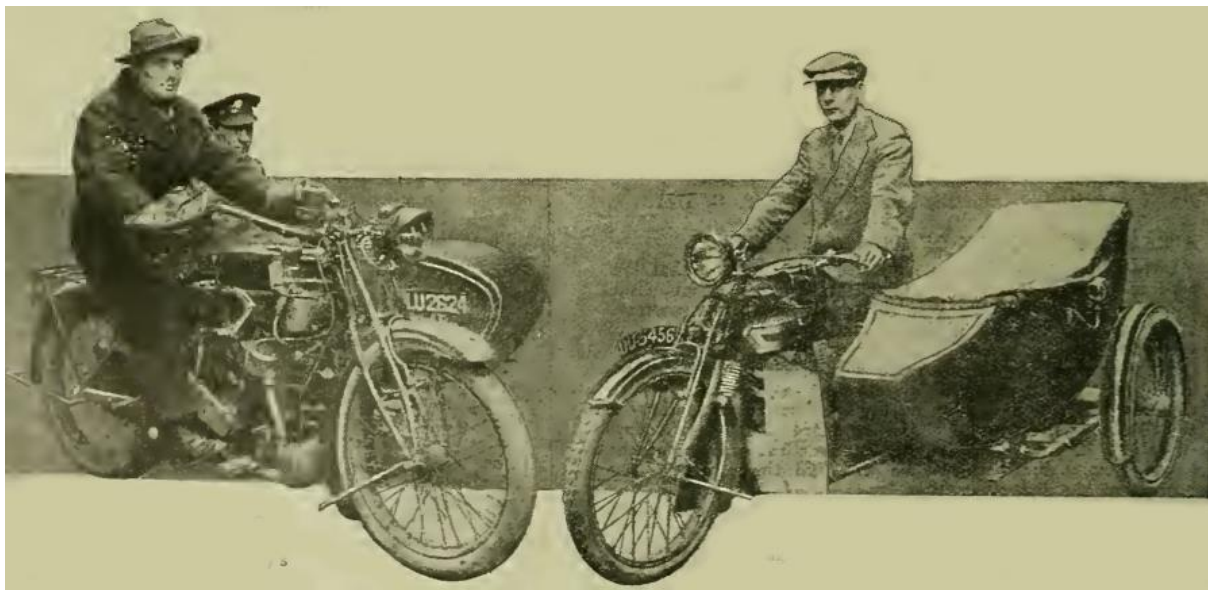
“To the Cork & DMCC is due the honour of being the club to hold the first post-war reliability trial, which was held on St Patrick’s Day.”

“SCOTTISH OIL MINE CLOSED DOWN: The Addiewell oil mine, Linlithgowshire, one of the pioneer shale oil mines in Scotland, has been closed down indefinitely owing to labour troubles.”

“RECENTLY, AT MORTLAKE POLICE COURT, a reader of *The Motor Cycle* was summoned for using a ‘motor car’ with a motor cycle licence. The summons was issued, by the Surrey County Council, who averred that his hand-propelled tricycle, to which an Auto-

wheel was attached, was a motor car, and therefore required a full motor car local taxation licence. The Surrey County Council was also supported by the local taxation licence authorities. Our reader (who is a cripple) defended the case himself, and it was unanimously dismissed by the bench of magistrates.”

“AT THIS PERIOD OF THE YEAR many used motor cycles change hands. Our readers are advised to exercise every care in purchasing second-hand machines, and to deal only with firms of high reputation, or, in the case of private advertisers unknown to them, to insist upon dealing through our Deposit System, which is designed to protect their interests, unless the machine can be tested before purchase. Dates of manufacture should be verified, when possible, by taking the engine and frame numbers and sending these to the makers. No firm or person whose methods are proved to be unsatisfactory is permitted to advertise in *The Motor Cycle*.

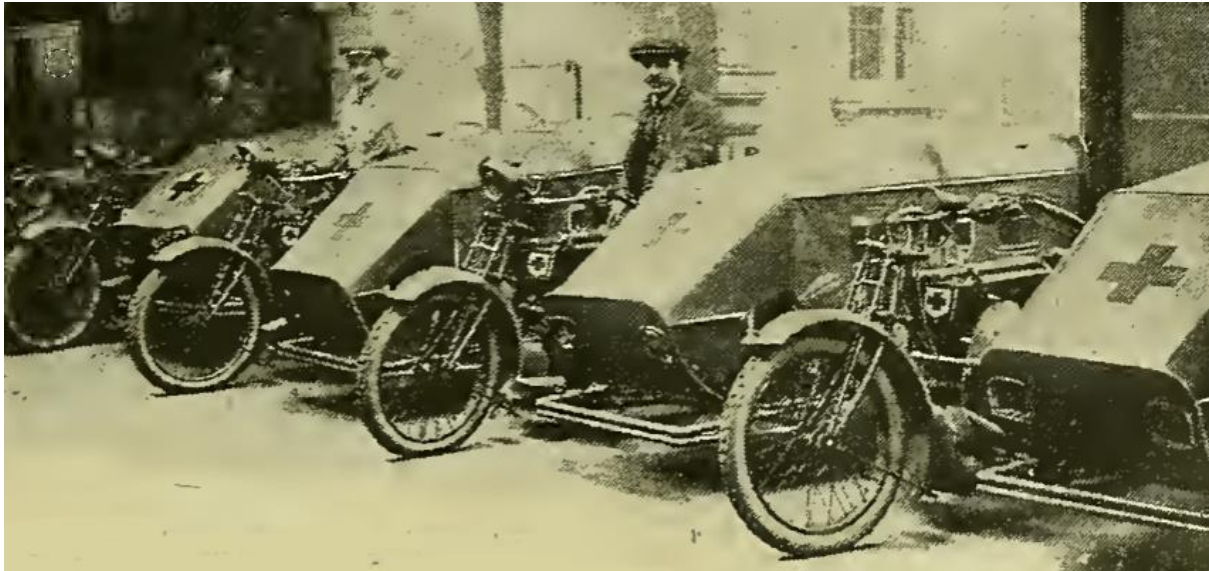


Left: “Mr Rex Mundy, the ACU representative, now touring the country inspecting ACU hotels. Mundy’s mount is a Victory model Matchless.” Right: “DH Noble (late lieut. RASCMT) is back again at the Rover motor cycle works in charge of the testing department. Noble was one of the Rover competition team.”

“SPRING IS BRINGING OUT a remarkable collection of antiquities. On main roads in the Midlands machines of other days were to be seen taking the air. A Quadrant of approximately 1905 date was undergoing drastic ministrations to its interior, having failed to drag a sixteenth century sidecar up a 1 in 100 gradient. Strangest sight of all was a James of the ‘forks on one side only’ variety going fairly well. Our hopes of seeing a Singer front wheel driven tricycle were disappointed.”

THE COPS HATCHED A NEW PLAN to catch speeders, as reported in the *Police Review*: “As the offending vehicle approaches the officer should commence walking in the same direction. When the car passes him he takes a mental note of the place as point A, and begins counting up to 20 paces. At 20 paces, Point B, he halts smartly and makes exact

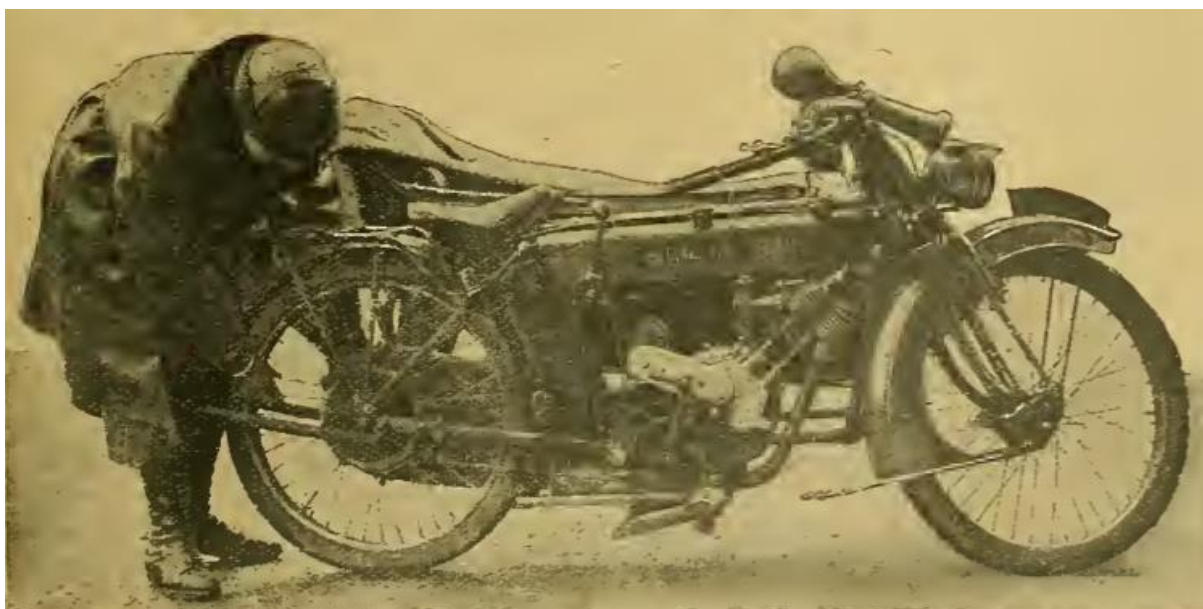
note of the car's distance ahead of him, Point C. Marching on to Point C he covers, say, 180 paces. Therefore 180 from Point B plus 20 from Point A equals 200 paces, 10 times the constable's 20 at 3mph. It follows, the car must have been doing 30mph. It is perfectly certain that, given such an explanation, no bench of magistrates would accept a defendant's declaration that he was going at no more than 10mph when he passed the constable."



A batch of five 8hp Sunbeam ambulances from the Western Front were auctioned at Aldridges, London WC2; and 200 solos went under the hammer at the Royal Agricultural Hall, Islington.

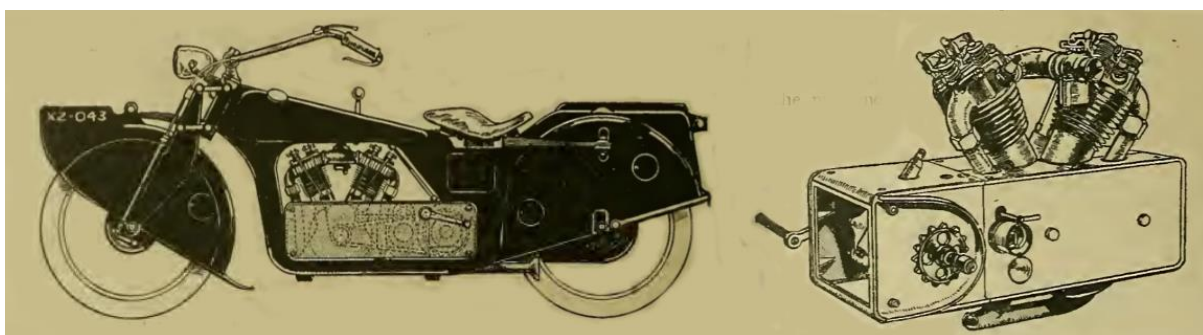
"ESSEX MC: THE DINNER ARRANGED to be held at Frascati's Restaurant on Saturday, April 5th, will undoubtedly be a great success, nearly a hundred tickets having been disposed of. The opening run arranged for April 13th will take place to the Green Man, Harlow, leaving Headquarters, the Eagle, Snaresbrook, at 11am. Lunch will be provided at 3s 6d per head, and all members who propose attending should advise the captain, Mr FA Applebce, at 208, Great Portland Street, W. The committee have obtained the first refusal from the Southend Corporation to hold a race meeting upon the promenade, and, subject to sufficient support being promised, a meeting will be run during the summer."

"THE HALL MC, STARTED IN connection with the Dartford Ironworks, of which membership is confined to members or employees of the firm of J&E Hall, has at present about forty members. The opening run was to Wrotham and Sevenoaks on Saturday, March 29th. It is proposed to hold a paperchase in the near future. The club has been affiliated to the ACU."



“Owing to the large number of Government cars and motor cycles lately stolen, all drivers are supplied with a padlock and chain, which has to be used whenever the machine is left unattended. The motor cycle to which a WRAF is seen fixing the lock is a P&M.”

ACU SECRETARY TOM LOUGHBOROUGH summed up the joy of motor cycle sport: “The fact that pedal cycle racing has lost its old grip on the public and is now confined to a comparatively small, if enthusiastic, circle has led some dim-sighted critics to foretell a similar fate for motor cycling competitions. If the motor cycle had reached the same finality in design as the push cycle of ten or even fifteen years ago, there would have been some excuse for such forebodings. Even so, there could be no comparison between the two forms of sport. The combination of skill and nerve on the part of the rider, the perfect ‘tune’ of the machine, the pure physical joy of speed and power that in a car becomes impersonal, and in the air is lost altogether, puts motor cycle racing in a class by itself, and will keep it there.”



“A 1921 machine de luxe—an engineer’s ideal: The entire framework, including forks, petrol tank, mudguards, valances, carrier, tool and accumulator boxes, is made up from thin sheet steel stampings and welded together with flush joints wherever possible...A 6hp V-twin is the power unit most favoured by the writer...it would have such features as overhead valves, detachable heads, outside flywheel, balanced crankshaft, cast iron

cylinders, and aluminium pistons, the capacity being in the neighbourhood of 800cc...lubrication should be entirely automatic with the whole of the oil carried in the sump...Chain drive throughout is suggested for the transmission, and a three-speed gear box (sliding dog type) with a simple form of dry plate clutch...In order to give the maximum of accessibility, the engine, gear box, and clutch are mounted complete in an aluminium sub-frame, which should be arranged to slide sideways on guides after the rear chain, controls, and silencer have been uncoupled. By this form of construction the complete outfit can be bodily lifted to a bench and overhauled at leisure...On the subject of brakes, the internal expanding type for front and rear seems the best...the two brakes might be interconnected and operated from a single pedal through a compensating device.”

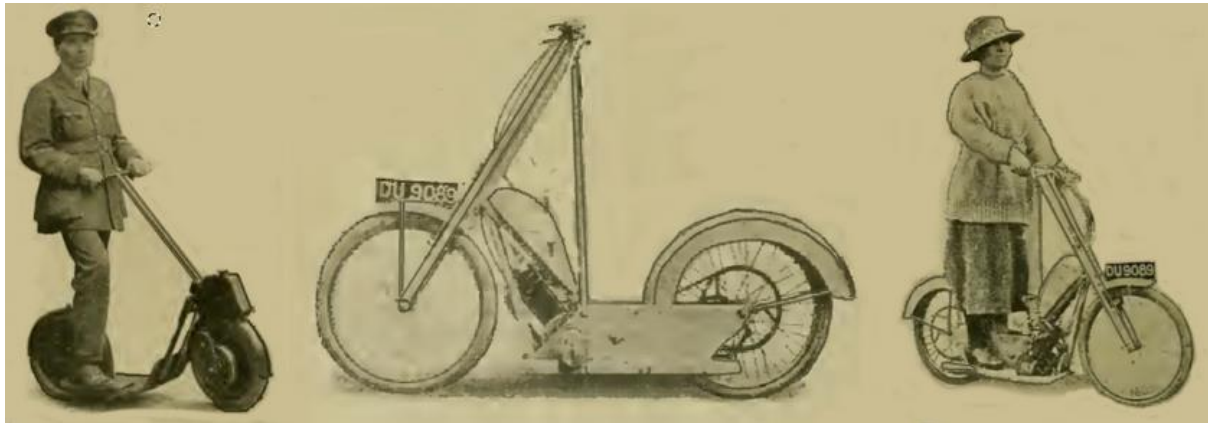
MAJOR SIR HENRY NORMAN, Bart, FRGS, AIEE, MP, formerly Liaison Officer of the Ministry of Munitions with the Ministry of Inventions in Paris and a member of the Legislation Committee of the RAC, was not, on the face of it, a likely customer for a stand-on Auto-ped scooter. Nonetheless, *The Motor Cycle* reported, “There is no doubt that Sir Henry is extremely enthusiastic over his motor scooter.” As Sir Henry explained: “Lady Norman saw it in an American paper, and said, ‘That is the very thing I have longed for all my life’...when I had finally obtained it Lady Norman rode it in the first five minutes down the Portsmouth Road...I think it is a very useful little vehicle...So far as its mechanical design is concerned, I called in my friend, Major Low, and together we took it to pieces, and found it to be hopelessly inaccessible and poorly made. I am confident, however, that a motor scooter, properly designed, has a big future...Major Low and I have taken out several patents, and in a few weeks’ time hope to have a sound design on the road.” *[This wasn’t as unlikely as it sounds. When wasn’t doing his bit in the RAF, Sir Henry’s chum was better known as Professor Archibald ‘Archie’ Low. He went on to spend 24 years as chairman of the ACU, chaired the RAC motor cycle committee and raced successfully at Brooklands. You’ll find more about the prof in the gallimaufry.*



Messrs Norman and Low with the Auto-ped. Lady Norman liked the diminutive American scooter and used it to commute to her West End office but the chaps reckoned they could do better.

“SCOOTER ENTHUSIASTS ARE, AT PRESENT, DIVIDED on the question of ‘to stand’ or ‘not to stand’. Two additional machines of the latter type are the designs of engineers. The Norlow—the result of experiments by Sir Henry Norman and Dr AM Low, ACGI, etc—is front wheel driven, and, although smaller and lighter than the American Auto-ped, it somewhat resembles it, in so far as well-guarded disc wheels and folding steering pillar are fitted. The engine is a 60x60mm (170cc) two-stroke, having an aluminium cylinder with a steel liner. Petroil lubrication has been adopted as being the most simple, and a carburettor designed especially for the engine is fitted. For ignition the coil system has been adopted, dry batteries supplying the current for both ignition and lighting...An internal-expanding brake on the front wheel is operated by an upward movement of the steering pillar, and the compression release and throttle controls are by twist grips...Leaf springs are fitted between the platform and the head, which, with the 2¾in tyres on 16in wheels, should almost eliminate road shocks. The weight is said to be under 60lb...The scooter designed by Capt Smith-Clarke was made by him for use by his wife for shopping and general runabout purposes, and Mrs Smith-Clarke informs us that, while the interest of the public is a little embarrassing, the machine has proved very useful. We have tried this little machine and, while we think it would be improved by a spring forks and larger tyres, we were very favourably impressed by its running. So well distributed is the weight, that when one stands astride it and raises it by the handle- bar, the wheels remain parallel with the ground. Capt Smith-Clarke

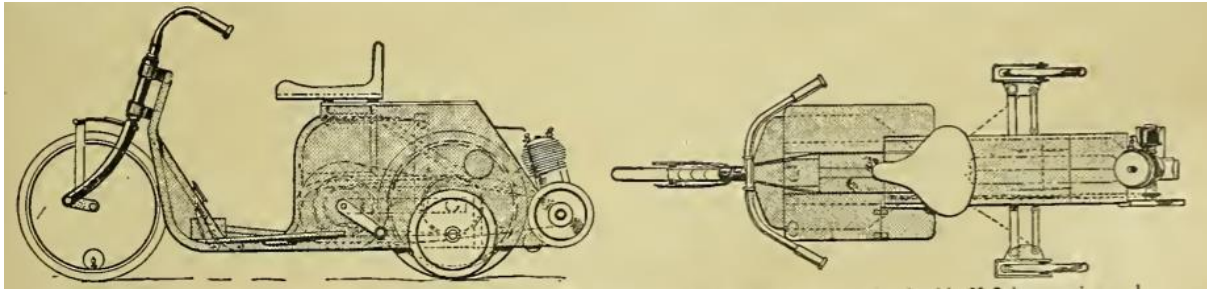
demonstrated that it was possible to ride for long distances without holding the steering bar...The framework consists of two steel plates, six tubes with flattened and drilled ends, and a head and fork assemble with very few brazed joints. The engine has a bore and stroke of 55x60mm (142cc) and has overhead valves. By driving the magneto at engine speed an idle spark occurs in the top of the exhaust stroke, but the higher speed of the magneto makes for easy starting. The wheels are 20×1¾in, the Auto-wheel size, and the machine weighs 55lb.”



“Dr AM Low on the ‘Norlow’, which he designed in conjunction with Sir Henry Norman. [Right] A scooter designed and built by Capt G Smith-Clarke for his wife, who is now a scooter enthusiast.”

“THE QUESTION ‘WHY STAND?’ will not be asked by potential purchasers of the Tankette, for, although the germ of the idea behind this little vehicle was the scooter, it is provided with a seat, and approximates to the lightweight motor cycle more than to the Auto-ped. Weighing 135lb, and measuring 6ft 5in over all, the Tankette will be marketed by Messrs Ronald Trist and Co of Watford, who for many months have experimented with various forms of scooters, commencing with a small toylike machine with 10in wheels...it can be regarded more as a competitor of existing lightweights than of the scooter proper. It is proposed to fit a 2¾-3hp two-stroke engine, located at the rear, and driving to a countershaft gear placed before the wheel, and hence back again to the rear hub...The frame is constructed-of flat steel strips about 1¾x3/16in, built up so that there are six members parallel at what would be its weakest point. Both front and rear wheels are sprung on leaf springs, the centre of the pivotal rear stays being coincident with the centre of the driving sprocket. A twin wheel is used at the rear, fitted with two 20×1¾in pneumatic tyres, with a free connection from one to the other, so that on going round curves the air pressure remains constant and the two friction points where the tyres meet the ground are maintained. Both tyres can be pumped from one valve, but, if a puncture occurs, the connecting cock may be closed and either tyre may be inflated independently...By driving air through vanes in the rear mudguarding, the back wheel is made to act as a fan...the embodiment of side wheel ‘runners’ was decided upon after long consideration, and that they were thought necessary because the machine would

be used mostly in towns and suburbs. This arrangement permits of the machine being stopped in traffic with the rider still seated and the engine running idly."



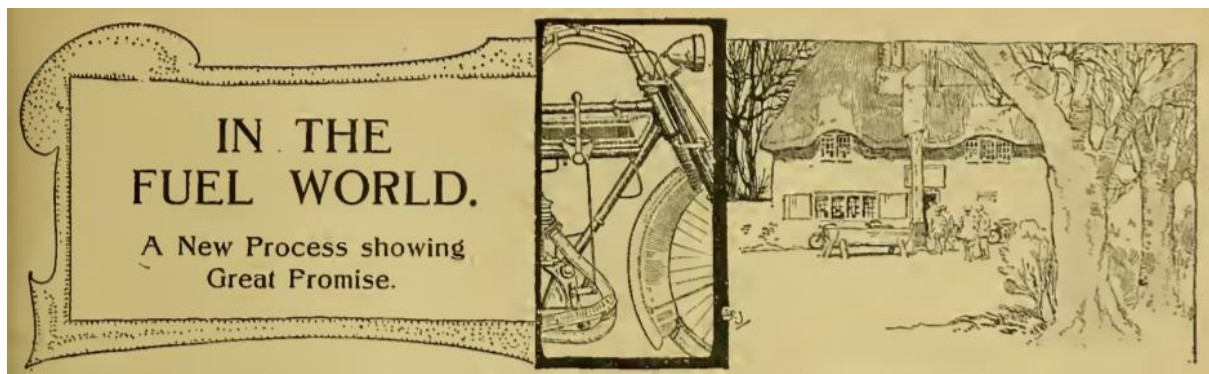
"The Tankette—a link between the scooter and the motor cycle."

EVEN IXION HAD BEEN PONDERING the scooter conundrum: "I have always found it difficult to take the motor scooter seriously, but you can never say what is going to happen when society people unearth a new fad. The picture papers put a camera man in waiting; then the universe begins to gossip, and the toy has gone into mass production before you have time to look round. The motor scooter has hesitated for some time between remaining a roller skate or expanding into a lightweight motor bicycle. At the moment it is coquetting with the more ambitious alternative. It has certain obvious advantages over, say, a Baby Levis or Triumph. It costs some £20 [£700 today] less at a time when cash is distinctly shy. It dodges the odium attached to pukka motor cycles in the eyes of the smart set. If it goes wrong, you can tuck it under your arm or put it in a cab. In some parts of the country the police apparently permit it to curvet on the pavement. On the other hand, it can never, never be used for touring in its original form, and is unlikely to commend itself for trips exceeding five miles at the outside...the real novelty of the motor scooter, as compared with lightweights, is that it presents itself frankly as a boulevard runabout and nothing more: it has no Land's End-John-o'-Groat's nonsense about it...My own verdict is that the scooter cannot stay where it is. It may ultimately shrink back to its original dimensions, and revert to being a sort of pocket motor bicycle for shopping purposes: or it may swell out into a form indistinguishable from the cheaper lightweights."

"OF THE MANY MACHINES DESIGNED as sidecar outfits, very few have embodied a brake on the sidecar wheel, and the 1919 model of a leading make upon which this was a feature before the war is now being reintroduced without it. With the tendency for sidecars to be heavier as refinement after refinement is added, the necessity to equip the sidecar wheel with a brake appears to be obvious, especially when the average front wheel brake does not give the service it should. It would appear that comparatively few experiments have been made by manufacturers and, if the matter has been given consideration at all, the question has been dismissed as being one fraught with many difficulties. By others it is thought that, if one rear wheel brake is sufficient to hold a machine on a hill, the increased cost of production of the sidecar brake is not justified. This rather appears to be narrowing the margin of safety, as, if the back wheel brake fails

to function, the driver has not complete control of the machine. It is certain that a really satisfactory sidecar brake has yet to be evolved, and, although our own experience with sidecar brakes has been far from encouraging, we see no reason why a successful design should not be forthcoming if designers will give the matter proper attention. We think one of the mistakes of the past has been the practice of having separate controls to the brakes on sidecar and back wheel, and also in so placing the lever that the former could be operated by the passenger. From actual experience we know it is most undesirable to permit the passenger to use the brake, as the least pressure upon the lever, if unexpected, instantly causes the machine to swerve to the left. It is clear that for a sidecar brake to be successful it must be interconnected with the rear wheel brake, and that it must have a balancing or compensating action, and an easy and accurate means of adjustment.”

PROBLEMS WITH THE SUPPLY of spare parts led one angry enthusiast to write: “A machine may be the fastest, cleanest, lightest, handiest, most powerful, cheapest, quietest, and best climber in the whole wide world, but when it stands idle for the six finest weeks in the whole year, waiting for a fork spring or some other trivial but vital part, it is not one-tenth part as fast as 1¼hp Dinkie, nor so satisfactory, and the owner will never buy another, and he will take care to spread the news among his friends, and will eventually sell the machine to his enemy.”



“FOR YEARS THE BRITISH MOTOR INDUSTRY has been deeply concerned over the supply of those fuels on which it is primarily dependent for its existence. Thirteen years ago, complaints of the high cost of petrol were rife, and experiments were conducted with alcohol, which, mixed with benzole, is an excellent fuel for petrol engines, but, although the trade and many private motorists saw the possibilities of the fuel, the Government either could or would not. And so, as a result of Excise restrictions, alcohol was effectively and permanently barred. Benzole was the next palliative, and in 1913, when the price of petrol had risen to the unprecedented figure of 1s 6d per gallon, a certain amount of the home-produced coal product was on the market at a few pence cheaper. All motorists liked it—in fact they could do nothing else—but the benzole producers found a better market abroad, and most of the English-produced benzole went to Germany, where it developed the great dye industry and contributed to the

accumulation of huge stocks of explosives! The Del Monte process came next, and no one seems to know clearly why this gradually fell into oblivion, for its prospects were quite rosy. It was a thoroughly commercial proposition for the production of cheap motor fuel, and, if the truth ever becomes known, it may appear that the petrol combine was at the back of its early demise. [As early as 1913 an Aussie newspaper had lauded the Del Monte process: *"It is about time this country realised that it possesses the equivalent of the oilfields of America, Russia, and other countries so favoured by Nature, in its enormous coal resources. Under a new and simple process, known as the Del Monte process, the extraordinary quantity of eighty-five gallons of oil per ton have been obtained. The process consists of distilling coal at a low temperature, about a half the heat required in the preparation of coal-gas. It is stated on the authority of the London Times—which describes the process as a 'revolutionising invention'—that coal waste, coal dust, and slack may be utilised under this method, also certain descriptions of coal which...are unsuitable for general use, and therefore of little value...The process is shown in operation at Barnes, near London...The oils obtained are of the paraffin series, similar to crude natural petroleum. They lend themselves like the latter to 'cracking', or breaking up into the lighter spirits which the high-temperature produced oils failed to do...From the tests applied to the motor spirit obtained under the Del Monte process, it has been proved that the spirit gives an increase mileage per gallon above that obtained from petrol, because of its greater thermal value...Little or no adjustment of the carburetter is needed."*] Now that the war is over, the authorities admit the real national importance of a home-produced fuel for road transport vehicles, and they are encouraging all enterprises that hold forth any serious promise of success. An experiment with alcohol is being conducted on London 'buses, and, if it is a success, it may be hoped that some relaxation of Excise restrictions will result, so that the artificially inflated cost of alcohol will undergo useful modification. A process that is entirely new to this country may be expected to fructify in the course of the next few months, and if it does the effect on the fuel situation as a whole should be considerable. Mr Greenstreet has had working in America for some years his patent process for the conversion of heavy hydrocarbons into the lighter members of the same series, and also for the removal of all sulphur from fuels that have hitherto been unusable in internal combustion engines on account of their too great sulphur content, sulphur being injurious to both valves and cylinders. From crude petroleum oil the process will obtain about 65% more motor spirit than has previously been possible, and the same holds true of its use with shale and coal tar oils. From substances as dissimilar as peat, sawdust, and coal tar by-products, a motor spirit of first-class quality has been obtained, and a useful feature of the process is that the boiling point of the resultant fuel can be controlled. In other words, the process will give a fuel to satisfy any reasonable stated requirements...Oil that has been discarded by the ordinary petroleum distillers as containing no more motor spirit ie, crude oil from which the lighter members have all been extracted by methods in ordinary use, have been made to give a

yield of as much as 40% of first-class motor spirit! The plant is comparatively simple and cheap, and can be erected almost entirely from materials which are likely to be in stock. Sir Boverton Redwood is a petroleum expert who has occupied a most important Government position with regard to fuels during the war, and upon his words unquestioned reliance may be set. His opinion of the Greenstreet process is that if it had been working and fully established in England before the war started we should have been entirely independent of foreign imported fuels!"



"The MCC opening run to Hatfield last week end. Many new machines were in evidence, together with a large number of well-known motor cyclists." Among them were a new design of spring-frame Chater-Lea and the latest Power Plus Indian with a Splitdorf dynamo and twistgrips with Bowden cables in place of rods to control the carb and mag.

"WHILE EVERYBODY IS TALKING BIG about 'mass production' and the 'lessons of aero engine practice'," Ixion warned, "I think we are in some danger of forgetting two firms to whom the industry owes a debt which is unforgettable. I refer primarily to the Triumph Co, who in my opinion rescued motor cycling from a slump due to bad design which threatened to engulf it a few years ago; and, secondly, to the Douglas Co, whose perseverance made the first twin a practicable machine. I am old enough to remember how two separate firms tried to make a job of the flat twin, and after struggling along in obscurity for a season or two surrendered. Then the Douglas people, who were then best known as makers of shoe trade machinery, took up the old Barter and Fairy patents on sound engineering lines and with the essential capital, with the result that the flat twin now challenges the once monarchic single...Neither of them has yet whispered to the public of anything but WD models. I expect each factory has a rod in pickle for those audacious mushroom firms which are plunging into mass production. Personally, I hope to welcome something of real interest from both concerns."

"WE HAVE FREQUENTLY WANDERED INTO CONFUSION IN RESPECT OF LIGHTWEIGHTS," Ixion opined. "At one time a 'lightweight' motor cycle was a machine which was catalogued at or near 100lb. To-day it means a cycle which has an engine of less than 400cc but which may tip the scale at 2½cwt. This is simply ridiculous. In the so-called light car world, the real objective of classification is initial cost and running cost. Whatever term is used for the 'juniors' and the 'junissimuses' (I am an old man and

have forgotten my Latin) should guarantee that the car so christened is cheapish to buy and very cheap to run. In the sphere of lightweight motor bicycles, price is not the main objective. If some stout old party who has not viewed his toe-caps for years hears a cycle described as a lightweight, it is weight which is his primary interest. He wants to be sure that he will not have an apoplectic stroke when he has to hoike the carrier backwards to get the machine on its stand. He may have no ambition to carry it up steps, but at least he will be depressed if it pushes him over on his back when he rashly lets it lean against him. At present, press, trade, clubs, and enthusiastic conversationalists befog this sporting old party quite hopelessly. For when Jones brags that his 'lightweight' can be kept on the mantelpiece, he is talking of a Levis Popular, weight 110lb: and when Brown talks of 'lightweight', he is describing deeds of derring-do on a 1920 'bus with spring frame, lighting dynamo, and Zeppelin-aluminium-girder side-car, weight 5cwt all on. I am not so crazy as to suggest that low weight is the Alpha and Omega of a 'lightweight'. Comfort, hill-climbing, reliability, and cost are all factors in the demand. But the term is grossly misapplied at the present time; and when so many slim girls and impoverished elderly papas with equators are nibbling at our hobby, it is time we became more precise in our diction."

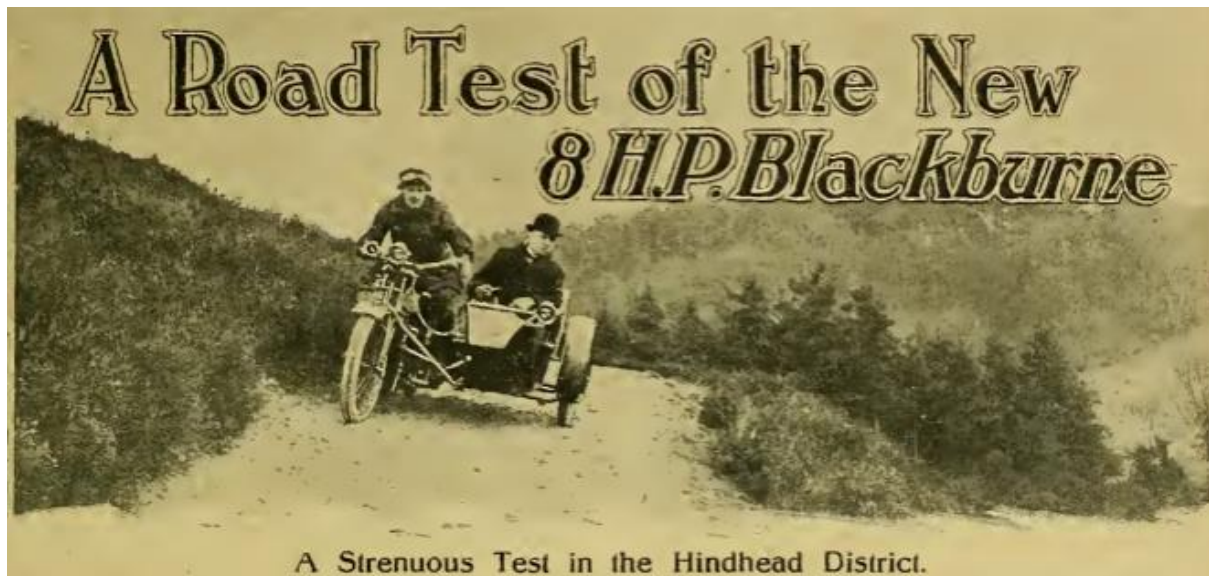
IXION HAD A VIEW ON EVERY PART of a motor cycle, including its wheels: "I should be very sorry to say good-bye to the wire wheel for some reasons; it is the only part of the average machine which has a delicate and fairy appearance: and a speedster should not look too lumpish. The wire wheel is elastic to a certain degree, and so makes for comfort: it is cheap to make, and easy to repair, unless, of course, you throw it under a traction engine, or bend it into a true lover's knot by ramming walls with it. But it is a beast to clean. Do not mistake me. I never clean my machines. I coat them with vaseline on delivery, and when selling day comes, one good wipe over brings away the vaseline plus the filth of ten thousand miles. But saner owners, I am credibly informed, spend an hour each evening going over their 'buses with metal polish. Moreover, the general public considers motor cycling a filthy pastime, and countenances speed limits and police traps because it sees us careering about with mud on our spokes, which is far worse than a Bacchante with vine leaves in her hair. So—strictly *pro bono publico*—I plead for a pressed metal artillery wheel, which shall be light, strong, resilient, and easily cleaned. In Mr Sankey's ear I breathe interrogatively the one word—"Duralumin?""



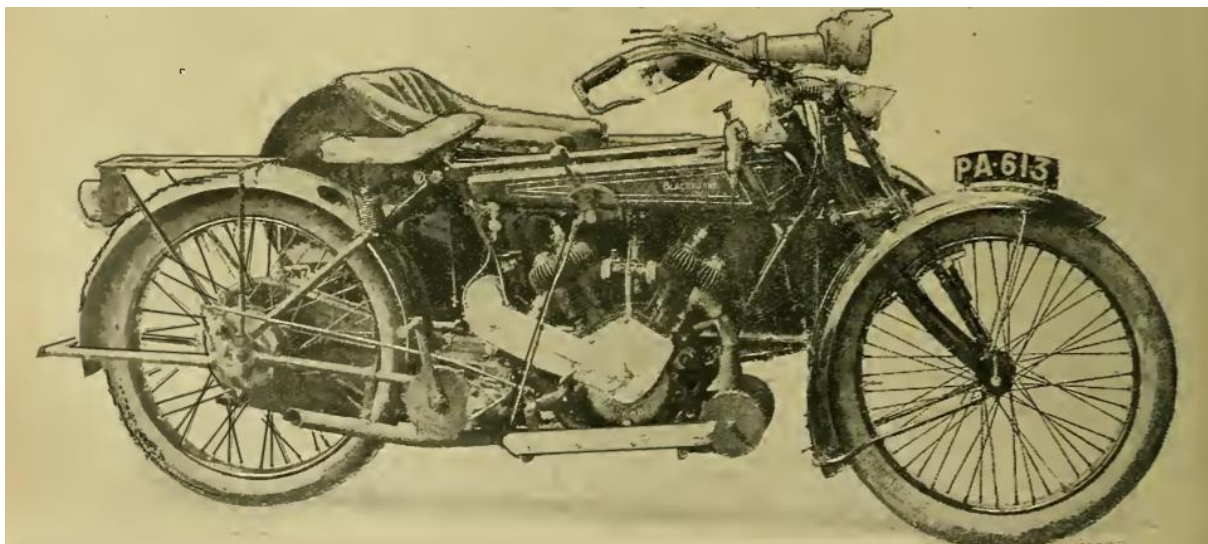
“A meet of enthusiastic Millhouse (Sheffield) motor cyclists, who met last Saturday for the ‘first run’ of a club that is about to be formed in the district. Reading from left the first four machines are new model Diamond, Douglas, Rudge and Enfield.”

“WITH THE ADVENT OF SPRING, we of the weaker sex always give much thought to the suitability, or otherwise, of various types of dress. I remember seeing in the motoring press recently photographs of an American lady rider wearing a low V-necked blouse. This is unpractical and dangerous to health. To ride in such would be at least courting pneumonia, but, as I said before, the photographs were American, and funny things are done ‘over the water’. After all, one can ride in unsuitable dress if one is so inclined. A footballer could play in evening dress. One must use one’s own discretion; nothing teaches so well as experience.”

“THE SAROLEA ENGINE HAS BEEN KNOWN in this country for quite a long time as being a very satisfactory Belgian production. The firm of Sarolea, at Herstal, near Liege, has been working hard since the Armistice to reorganise its factory, which was considerably damaged during the German occupation, and the firm is hoping very soon to begin to manufacture engines and motor bicycles once more. Towards the end of May it is hoped to produce a 4hp single-cylinder motor bicycle, 85x97mm [550cc], fitted with Sturmey-Archer countershaft gear, transmission by chain and belt, and all the latest improvements. This information has been sent to us by M Fagard, one of the Belgian representatives of the International Federation of Motorcyclists. He states that the speed with which Belgian motor cycle firms can resume their pre-war activity depends to a large extent on the assistance the Allied Governments can give them in furnishing them with the necessary raw materials.”



"ONE DAY LAST WEEK, on a very faint line, Mr JS Holroyd was heard to inform us that the new 1919 8hp Blackburne sidecar combination was ready for the road, and, beyond hearing something to the effect that he would like us to come and see him try to break it up, little more could be heard. We arrived by road the next morning, and found the new Blackburne quite ready for the trip. The outfit had only just been completed, and all it had had in the way of a test was a run to Gosport and back to Tongham. So far as the motor bicycle is concerned, the engine is a 60° 85x88mm 998cc twin, with detachable and interchangeable cylinder heads, and that most noteworthy of all Blackburne features—an out-side flywheel. Particular attention has been paid to the silencing of the engine, both as regards the exhaust and also as regards noises from the valves and timing gear, and considerable success has been attained in this direction...From Tongham we made our way along bumpy roads, which brought us eventually to Elstead.



"The new 8hp Blackburne twin presents a very handsome appearance."

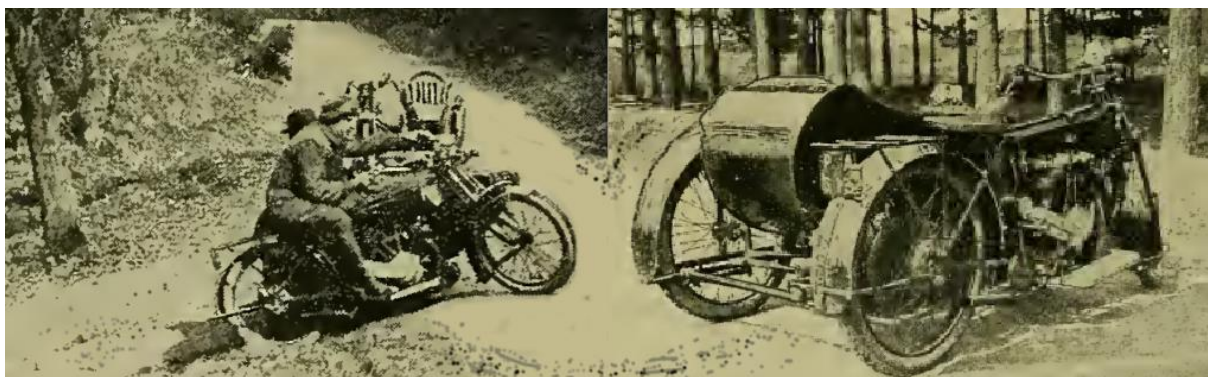
From here we proceeded in the direction of Churt until we reached a pretty spot where a steep, rough, and narrow track, obviously not meant for wheeled traffic, descended into the valley...In a few minutes we were in a part of Surrey the nature of which could never be guessed: a wild district of unsurpassable beauty, unsullied by signs of human habitation, and devoid of all roads. True, there were tracks, and these were similar to the mule paths that exist in the Vosges and other mountainous districts. Our descent was down one of these steep tracks. The surface was sandy and intersected by ruts, gulleys, roots of trees, and great stones, the avoiding of which (when possible) called for every atom of skill the driver possessed. Such surfaces excited rebellion in the hearts of certain competitors in the 1914 Six Days Trials, yet they are of a kind met with in our Overseas Dominions, and it is for these countries that so many British motor cycles are required. Messrs Burney and Blackburne realise this, and their products have the high ground clearance, the 28in wheels, and the power to combat these conditions. The top gear ratio, we may mention, was $4\frac{1}{4}$ to 1...we charged up the hill over a surface similar to that described above on to a gradient of about 1 in 5. Just short of the summit the combination almost came to a standstill owing to back wheel slip, but heeling over to a dangerously steep angle, so abruptly did the track slope away, and with a veritable precipice on the left, the engine gallantly stuck to its work and surmounted the gradient. The track now became less steep, but no better as regards surface; notwithstanding, Holroyd changed into second, climbed a short steep pitch, and then, to our amazement, left the track,



The Blackburne's designer took the men from *The Motor Cycle* far from the beaten track.

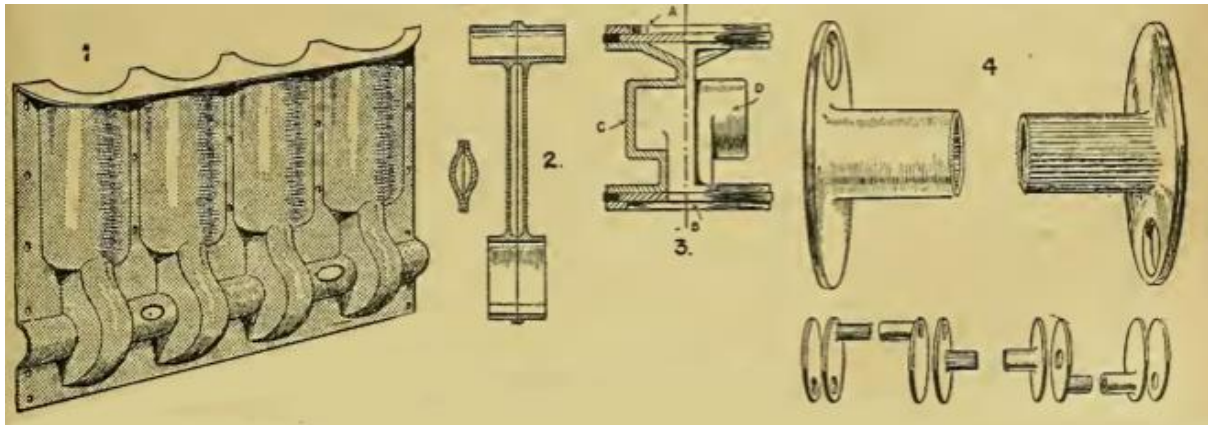
slewed round to the right, and charged up the hill over the gorse. As we anticipated it would, the engine resented this treatment and stopped, but Holroyd was much surprised till he discovered he had omitted to change down to first speed. This was a fault which was soon remedied, and we were again tackling the slope. A glorious view unfolded itself, but for the moment we were occupied in regarding the hollows, bumps, and ridges which were wringing and straining the sidecar frame, but nothing happened. The Blackburne did all that it was asked to do, and did it well, and part of it over a track which no car, not even a Ford, could have negotiated owing to its narrowness...the real test finished up with a genuine 'freak' hill-climb. The surface was as before, the gradient

1 in 4 or worse; the power was there but adhesion failed, and a boulder blocked the way, so what would you? Resuming normal conditions we took the helm and returned to Tongham through Tilford and across the Hog's Back. This gave us the opportunity of appreciating the new Blackburn's good qualities to the full. We found the engine to be beautifully balanced and its smooth and silent running appealed to us most strongly. The engine possesses wonderful powers of picking up speed on a gradient without change of gear; this is clearly due to the outside flywheel, which enables power to be maintained at slow speeds, while the fact that there are no internal flywheels retarded by the viscosity of the oil clearly adds to the efficiency of the engine. We are left with the impression that the new Blackburne has made good, and will be a mount which will be much sought after, not only in this country but in the Colonies, and will go far towards recapturing the trade, which, owing to the war, has been allowed to slip into allied but foreign hands."

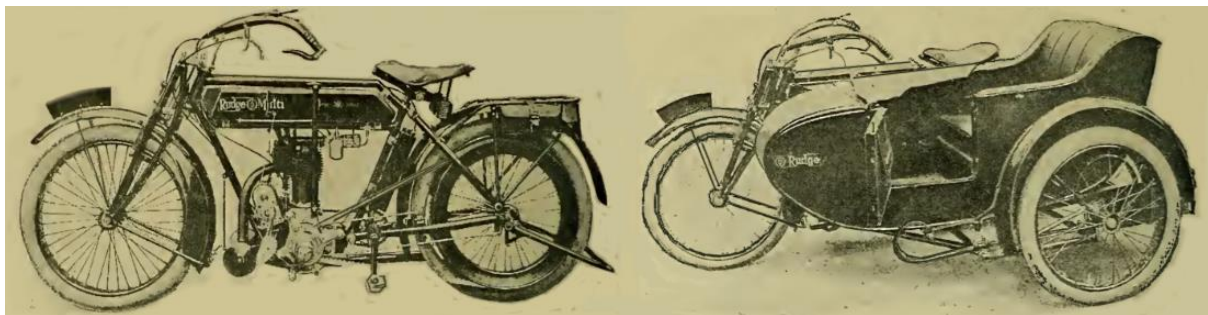


"Negotiating sharp and steep turning into the Churt road. Rear view of the Blackburne outfit; the width of the mudguards is a commendable feature."

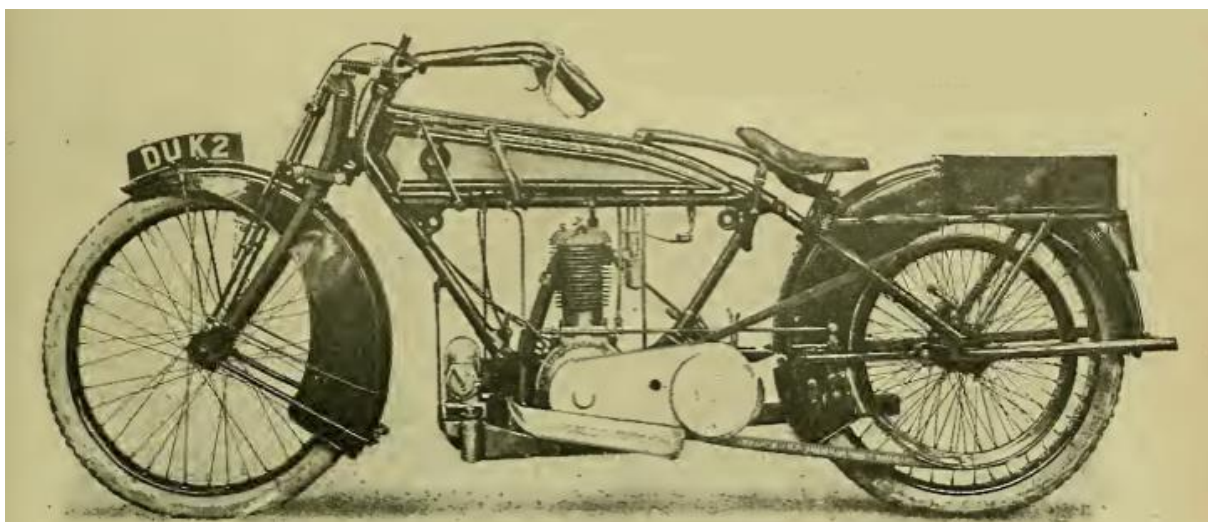
AW WALL, INVENTOR OF THE WALL AUTO-WHEEL, patented designs for a four-cylinder motor cycle engine made up of stamped steel sheets. Major components including cylinders, head, crank case, crankshaft, pistons and conrods had all been made to Wall's design: "The journals and crank pins are formed by stamping a long spigot, in the centre for the journals and eccentrically for the pins, from each of several flat steel discs. Two opposed units, with spigots which telescope one within the other, constitute each journal or pin, and the two and also one disc of the next unit are held together by, roughly speaking, burring over the ends of the spigots. Provision is made for preventing rotational movement between the telescoped parts, otherwise, of course, the shaft as a whole would be twisted all shapes by the torque it must convey to the flywheel." Claimed advantages included "extremely low cost, very light weight, unusual strength, and suitability for mass production."



“Fig 1—A single pressing that will form one half of the cylinder “block” and crank case. Fig 2—Section of the connecting-rod built up from two pressings. Fig 3—A piston built up of steel stampings; (a) head (b) skirt, (c and d) halves of body. Fig 4—Units of the built-up crankshaft.”

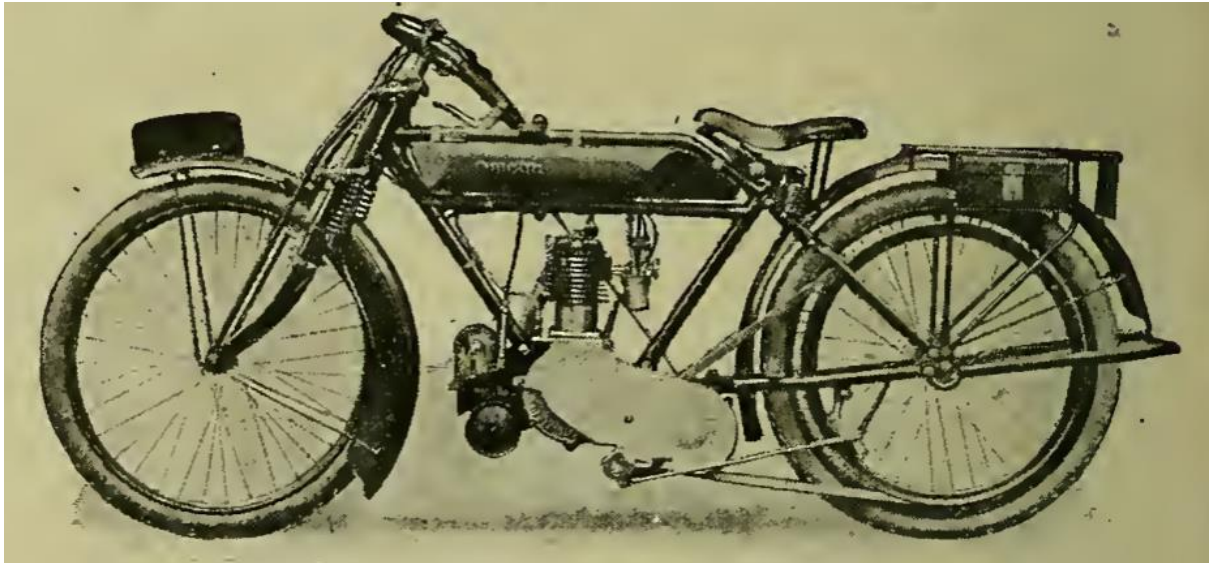


Having completed remaining government contracts Rudge lost no time in getting the Multi back into production. There were few changes from the 1914 model, but oil was carried in a separate tank, making room for more petrol and the crankcases had been cleaned up to lose dirt traps. The sidecar had been enlarged; as well as the usual locker under the seat there was extra storage space behind the seat.

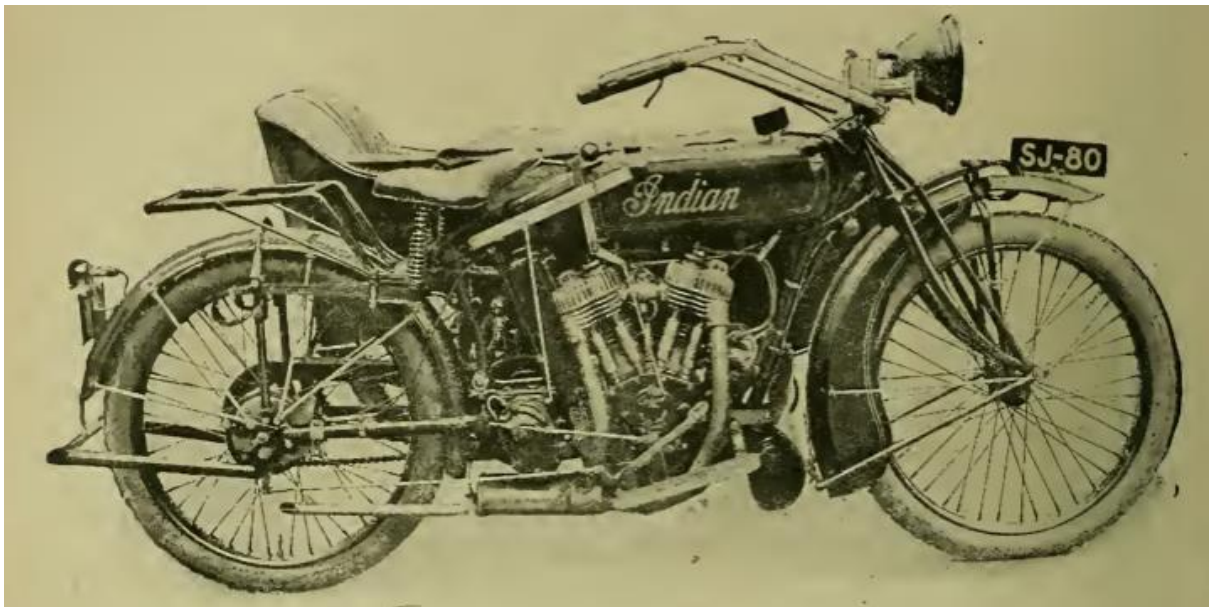


“So far as singles are concerned, it is about five years since an entirely new design was introduced. Therefore, the Rex Model 77 4hp 550cc sidecar single undoubtedly will create a great deal of attention...It has been designed throughout for passenger work,

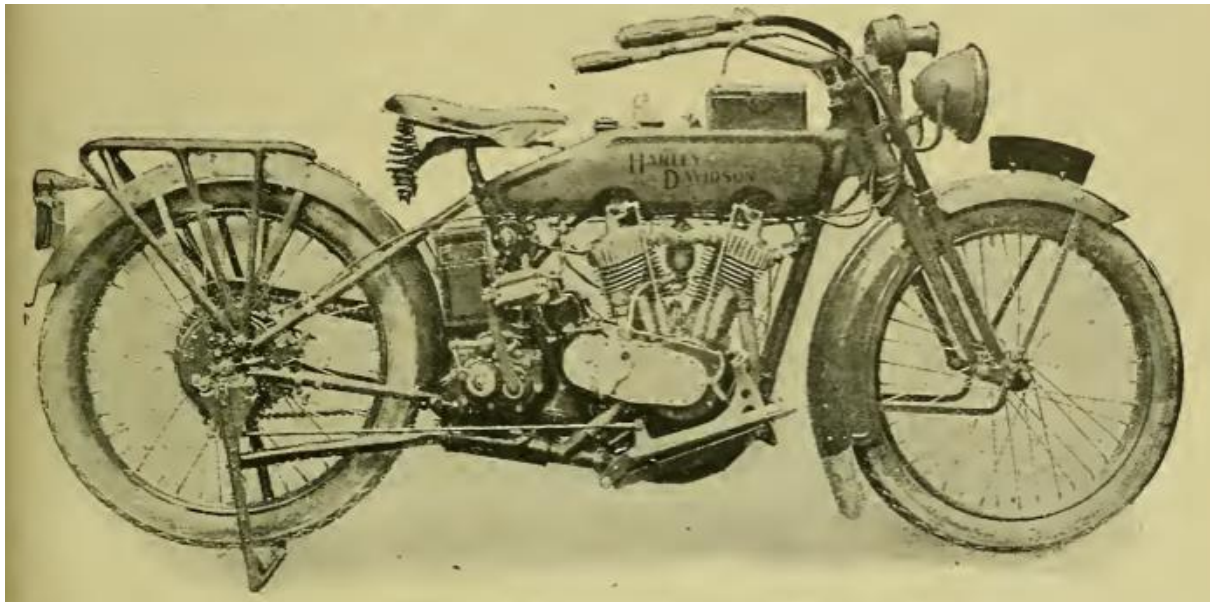
and is, consequently, heavier than most machines of the same capacity which are designed as dual purpose mounts. The requirements of the Overseas markets, too, have been borne in mind.”



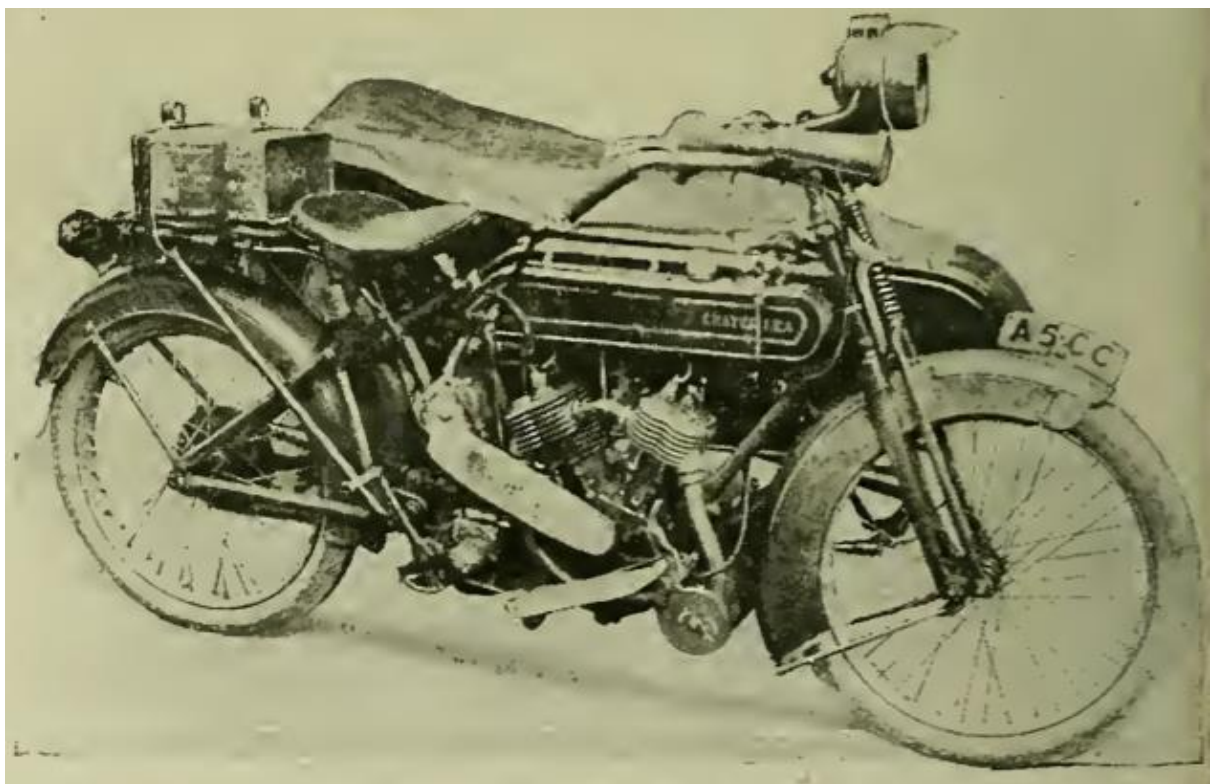
“The new Omega is fitted with the latest type 2¾hp JAP engine, with the magneto in the forward position; otherwise the machine differs very little from its predecessors...a two-speed countershaft gear is a standard fitment. The machine is supplied as a touring model with raised handle-bars, and as a sporting machine with semi TT bars.”



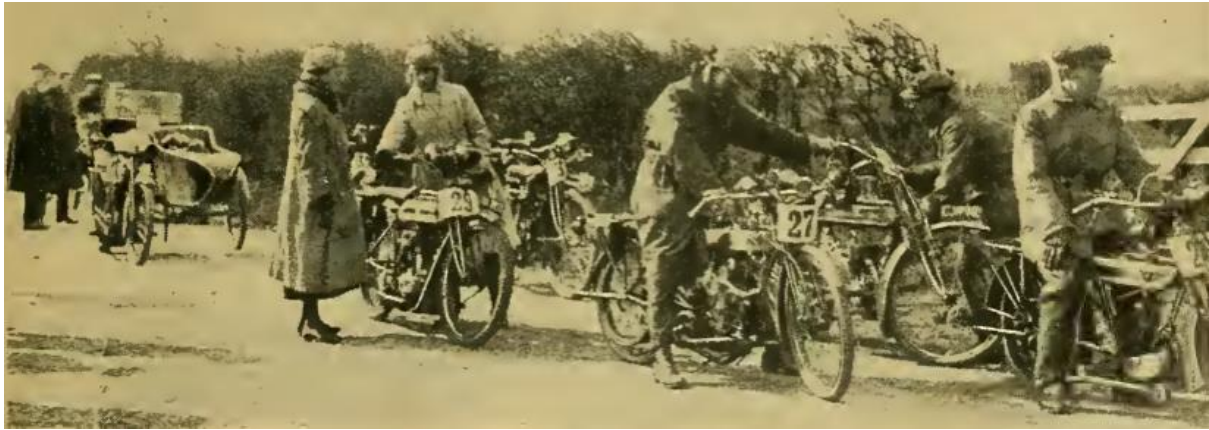
Innovations on the 980cc Powerplus Indian included a dynamo in front of the engine (protected by a substantial cover that doubled as legshields); a combined volt/ammeter on the top tube; a larger silencer, wider brakes and twistgrips for the throttle and advance/retard.



Harley-Davidson's 988cc IOE sidecar machine gained a Remy dynamo, and ignition coil and Exide battery with electric lights and horn. The front end came with a mudflap, front-wheel stand and handlebars secured by "duplex tubes, held in two strong clips".

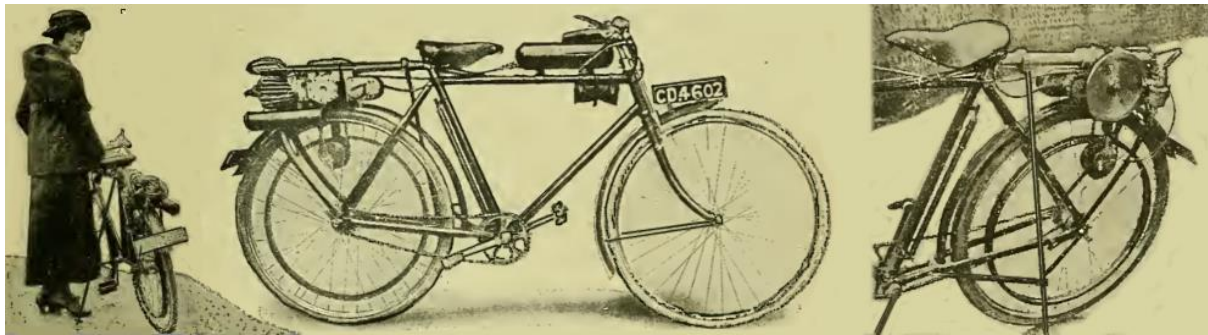


Chater-Lea came up with tidy rear suspension: "The sprung portion of the frame consists of a triangle, one end of the base being hinged on to the rigid portion of the frame, while the other end of the base carries the rear wheel. From the top of the triangle to the fixed portion of the frame there runs a laminated spring, the bottom end of which is rigidly fixed, while the top end slides in a slot. The sidecar wheel is suspended in a very similar manner."



“Competitors at the start of the Manchester club’s recent speed-judging competition. This well-contested trial took place over a course of twenty-five miles. The motor cycles shown include a Douglas, Levis, Triumph, and Indian.”

“A 50LB MOTOR CYCLE: the Zephyr auxiliary motor attachment for pedal cycles, which has been evolved by the London and Westminster Industrial Syndicate, is an interesting and ingenious little power unit. The motive power is a 110cc two-stroke engine of about 1½hp attached to a horizontal tube, the forward end of which is fixed to the seat-pillar, while the rearward end is made adjustable on the threaded extension of a pair of supplementary back forks secured on the rear wheel spindle of the bicycle. There are two sprockets between the flywheel and the crank case—one for the drive to the CAV magneto, the other for a chain-driven friction pulley...The pulley and its sprocket are mounted in an adjustable bearing at the lower end of a swinging arm controlled by a Bowden wire from a lever on the handle-bar. An ingenious compression release on the engine is worked by an inverted lever under the left handle-bar grip, and the right-hand lever controls the front rim brake. The rear brake is of the back pedalling variety...We journeyed to Brighton to try the attachment and the long hill chosen for this purpose had a gradient of about 1 in 14. The Zephyr climbed the hill at a good 20mph, which was quite a creditable performance...One attempt to restart on the hill failed, but on a second occasion a successful start was made. No doubt the Zephyrs will meet all the requirements of those for whom they have been designed, and will do much good missionary work among cyclists, who ultimately will become owners of higher-powered machines. Their sphere, however, is not confined to this section of the community, and we anticipate that, in this mechanical age, a large number of people will buy it for its general utilitarian conveniences. Many partially disabled men, who are physically incapable of strenuous pedalling, will also find a motorised bicycle a great assistance.”



“The light weight of the Zephyr motorised bicyce will make particular appeal to ladies. The Zephyr attachment embodies a two-stroke engine of 110cc and friction transmission. The Zephyr is fitted with a stand having a long leg, which is stayed by two straps hooked on to eyelets on the near side wheel stay. When out of position it is strapped to the top tube.”

“EASTERTIDE EVENTS: THIS EASTERTIDE several important events took place in the motor cycling world. In ordinary circumstances, The Motor Cycle would have commented upon and illustrated the events in this issue; but in this instance we have refrained, out of consideration for our works staff. Few realise the task of printing a journal with a huge circulation such as The. Motor Cycle enjoys. Incidentally, it has set up a world’s record in automobile journalism. This issue actually borders upon the 100,000 mark. To have included illustrated descriptions of Easter events in this issue would have necessitated the curtailment of a long-anticipated holiday badly needed by all the sections of our works.”

“THE 1919 PEUGEOT MOTOR CYCLES: Despite the fact that we have heard rumours that the 1919 Peugeot range would include a four-cylinder, the Peugeot firm has decided to remain faithful to the twin-cylinder 45° type for the present year. The machines, however, have been improved by the fitting of a countershaft gear box... The two twins will be the 345cc 3½hp and the 740cc 6hp, with two and three speed respectively (which is curious, as the third speed is obviously needed much more on the lower-powered machine).

The sidecars will bs sold made in wicker, sheet metal, and wood, the latter following the general form of the floats of a seaplane.”

“MOTOR CYCLISTS IN AIRMEN’S GARB: The leather Flying Corps coats are very popular with motor cyclists this year.”

“A JOHANNESBURG MAN HAS INVENTED an internal combustion turbine, but then so have men in nearly every town in Great and Greater Britain.”

“On the Road: Every week-end sees more machines on the road—and many of these new models.”



“Members of the Nottingham & DMCC at the Peacock Hotel, Belvoir, on the occasion of their recent opening run.”

“MOTOR CYCLE POLICE: A MIDDLESEX READER, who has been trapped by plain-clothes policemen who were using a sidecar outfit, is very sore that ‘motor cyclists should trap each other’, and suggests that they deserve to be given the cold shoulder by other motor cyclists. We scarcely like to give the number of the machine in case it was a borrowed one. This appears to be a new departure on the part of the English police, but we would point out that in America almost every city has its squad of police mounted on motor cycles. Maybe, when the police taste of the joys of motor cycling, they will not be so anti-motorist.”

“THERE IS A DEARTH OF TAXICABS in Paris, and, as a remedy, the French capital is to have a public service of sidecars. Probably the machines used by the American Army will be acquired and equipped with adjustable hoods for the protection of the passengers.” Before long A fleet of 200 sidecar taxis took to the streets of Paris with a promise that “the drivers will be in uniform, and will, we are informed, be clean, polite, and correct in their behaviour. It is also rumoured that there will be no tips.”



The French government launched a series of auctions in 25 regional centres to dispose of war surplus motor cycles—these are American bikes and sidecars in Paris’s Champs de Mars—no doubt many of them joined the sidecar taxi fleet.

“HOME-PRODUCED FUEL: The Liverpool MCC Whit-Monday Trial will be run entirely on benzole—a good example for other clubs to follow...It is said that nearly 5,000 square miles of coal deposits are in the Transvaal. The extractable tonnage is conservatively estimated at about 56,000 millions. Converted into benzole, with existing means of distillation, this would produce approximately 140,000 million gallons of motor fuel.”

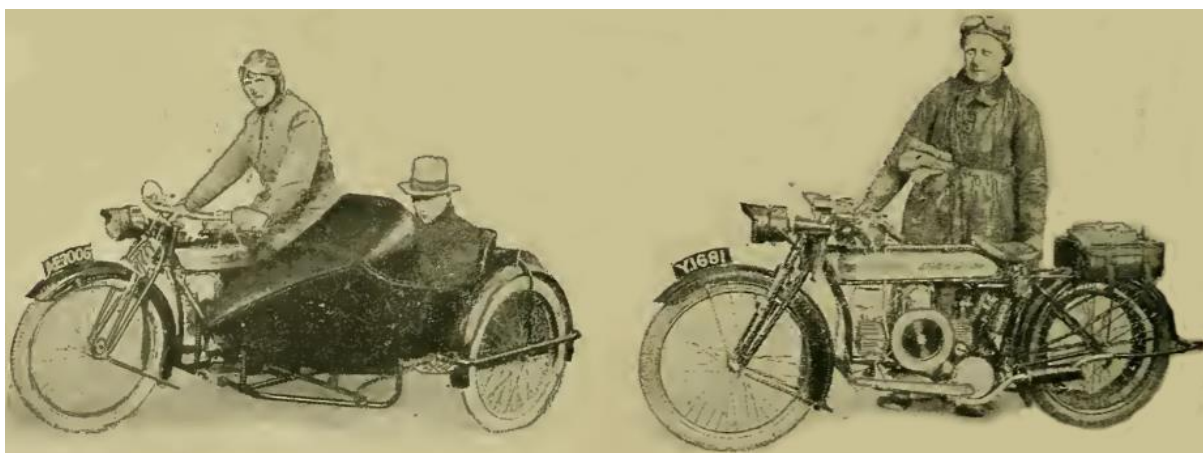
“MAGNETISED SPROCKETS: THE LEAKAGE of magnetism into the steel sprocket of a certain American magneto is not confined to machines in this country. A reader of The Motor Cycle has had the same trouble in America.”

“THE SCOOTER: Last year we asked in these columns what had become of the motor scooter. In a period of less than twelve months half England is talking about it.”



“The Coventry branch of the National Motor Cyclists Fuel Union in Badby Woods, near Daventry, a picturesque spot which has become very popular with Midland motor cyclists.”

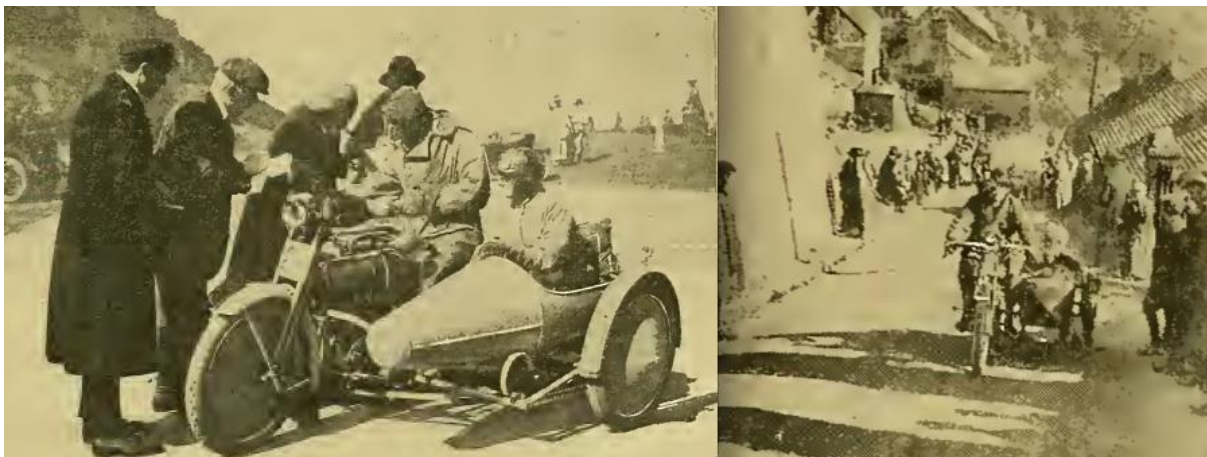
THE BIRMINGHAM MCC'S VICTORY CUP TRIAL was the first major post-war competition: “That over fifty per cent of the entrants secured gold medals may convey an impression to those who do not know the course that the reliability and power of the modern machine had been under-estimated by the Birmingham MCC. It has, however, been proved before that, where it is possible for a wheel to obtain grip, the machine of to-day, and even of 1914, will climb with success, provided the rider can handle it. The roads were dry, and, except for the dust, which was very trying, conditions were ideal for the competitors. Had it been wet, we think the results would have been very different; the first hill and Rising Sun alone would have considerably reduced the number of gold medallists. It is perhaps only fair to the makers of the machines that failed, to say that the personal element was responsible for more failures than mechanical troubles. Competitors were credited with 100 marks at the start. There were four non-stop



Left: E Kickham (4hp Douglas and Dinky sidecar). Right: “The new 3½hp spring frame

Douglas. PW Moffatt successfully piloted this machine through the trial.” (He won a gold.)

sections, to stop in any of which meant the loss of 12 marks, while for failures on the test hills competitors were debited with losses in proportion to the severity of the hill. Failure on Beacon Hill represented 11 marks, on the Old Wyche 6, Portway 8, Birdlip 10, Rising Sun 7, and Sudeley 8. To qualify for a gold medal, competitors had to secure 97% of the cup winner’s marks, while lightweight riders were allowed to drop to 88%. Silver medallists could lose 8% marks, and in the lightweight class 17%, The winners of the cups were decided by a speed judging test over a distance of two and a third miles. The condition of Beacon and Rising Sun was very bad. The latter was particularly rough...Several ‘Hush’ models were in the trial, including the 1919 model, 3½hp spring frame Douglas, a 2¾hp spring frame New Imperial, and a Sunbeam with laminated springs fore and aft...Rex Mundy (Victory Matchless) drove the major portion of the trial



Left: “In the time check at British Camp, near Malvern. Messrs Lycett and JT Urry are seen busy examining the rider’s sealed watch.” Right: “DR O’Donovan (Norton sidecar) climbing the Old Wyche.” (Nine Nortons entered; Wizard O’Donovan was among the five who failed to finish.)

with a broken throttle wire in his hand. Notwithstanding, he made one of the best climbs on Rising Sun...Many non-competitors showed lack of sportsmanship by insisting upon trying Rising Sun in between the competitors. The egotism required to do this before such a crowd of spectators was pitiful to behold. We did not sympathise, however, with those who failed...Several competitors were baulked by non-competitors...The new Douglas ridden by Moffatt had no exhaust noise under normal conditions. The running of the machine reminds one of a sewing machine...There were 5,000 teachers in Cheltenham attending a convention. Result, no lunch...A small dog persisted in trotting



“Mr Gus Kuhn, the winner of the Victory and Evans cups in the Victory Cup Trial, mounted on the well-worn 1914 model 2½hp Levis with which he secured the awards. The weight of the machine is sufficiently light to permit of its being lifted by its rider. Mr Kuhn tells us that his average consumption is about 125mpg, and that his maximum speed is about 40mph.”

across Birdlip in front of almost every competitor, and its owner did not seem to realise the number of times her pet narrowly escaped sudden death...Albert Milner, still in khaki, mounted on a Diamond, caused some amusement on the Old Wyche by raising his front wheel off the ground at the top of the hill...Several of Kickham’s ‘Dinky’ sidecars were fitted to competing machines, and were voted to be the roomiest sporting sidecar ever seen...Pike’s Levis, with which he won a gold medal, had the smallest engine in the trial, the capacity being 198cc, and did the entire course—126 miles—on less than a gallon of petrol.” G Kuhn (2½hp 211 cc Levis) won The Victory Cup, for the best performance by any machine and the Evans Cup for the best performance by a member or ex-member of HM Forces. GA Dalby (4hp 550cc Triumph sidecar) won the Duke Cup for the second best performance. Of 73 starters 41 riders won gold medals, 11 won

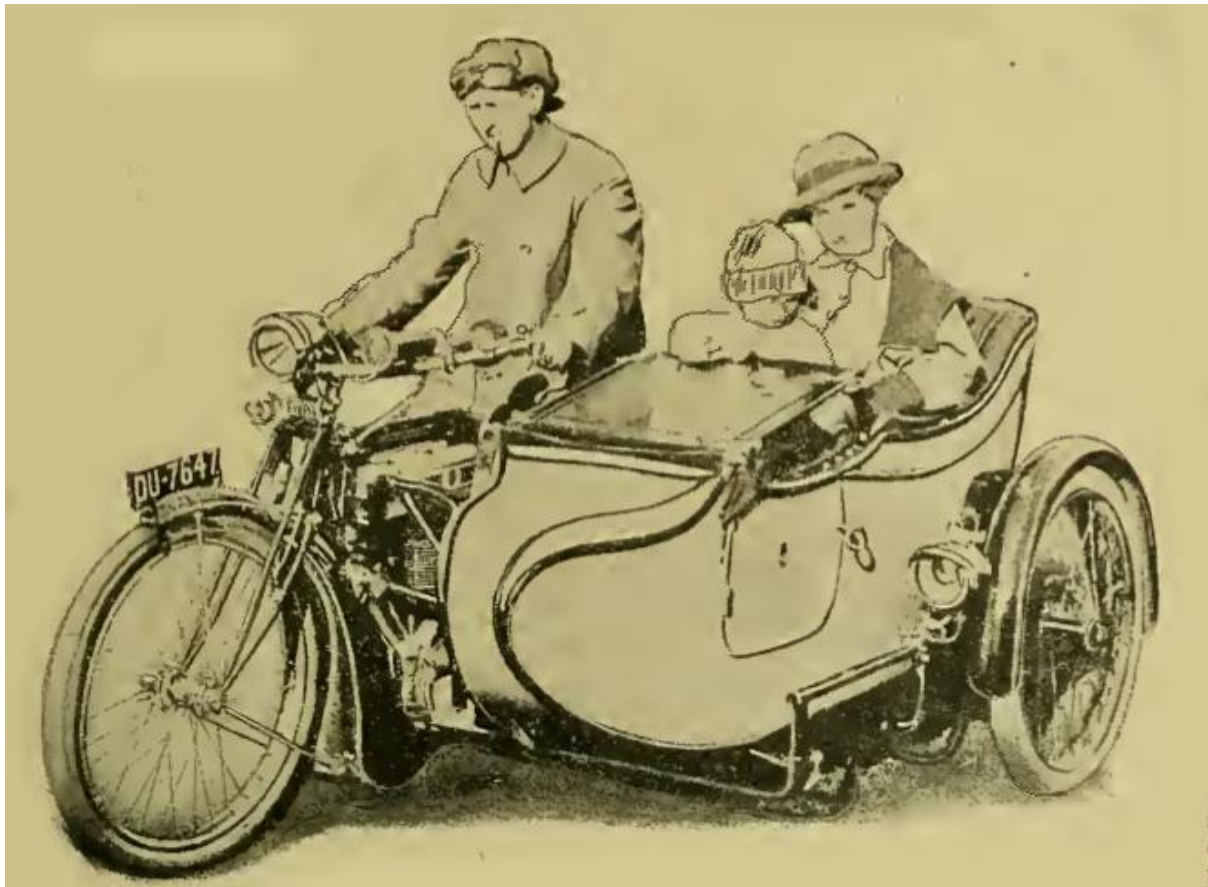
silver, 11 finished with no award and 10 failed to finish. Of eight starters on 4¼hp BSAs four won gold and four won silver.



Left: "The crowd of spectators on the Old Wyche, illustrating the new interest of the general public in motor cycles." Right: "E Kickham (4hp Douglas), on Portway Hill." (He won a silver.)

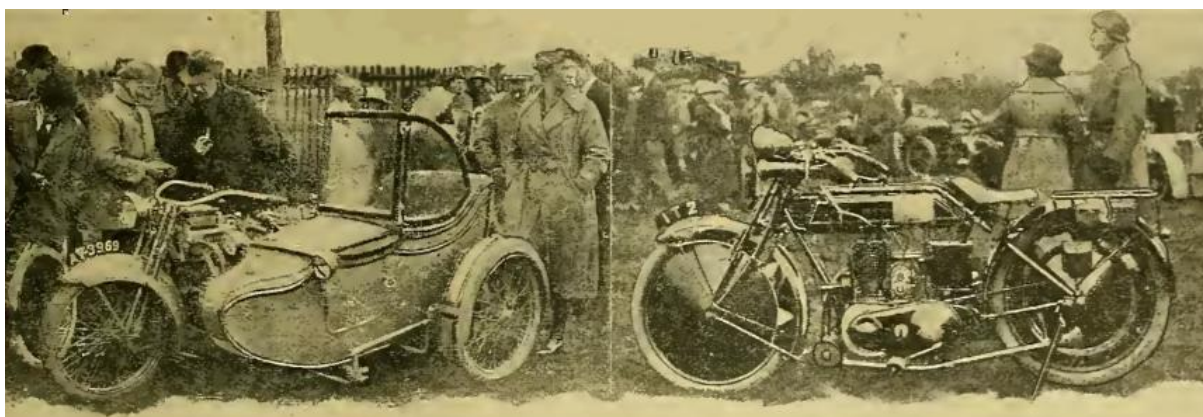
"PURLEY & DMCC: WE HAVE HAD A LETTER from the hon sec, L-Cpl SJ Taylor, 201,653, 2/5th Durham Light Infantry, Salonika Army. He states that he will be glad if any demobilised members of the old club (moribund since 1915) will communicate with him with a view to restarting it. Unfortunately, Mr Taylor sees no prospect of returning home till 1920, so he trusts that any old members will set to work to revive the club, appoint a new hon secretary, and proceed with a new programme. His father, M. E Taylor, 19 Clifton Road, Wallington, Surrey, will hand over the necessary books and club papers."

"OVER 500 MOTOR CYCLES AT NMCPU RALLY: About 550 members of the National Motor Cyclist Fuel Union congregated at Stratford-on-Avon for the intermeet organised by the Birmingham and Coventry branch secretaries, and these were mounted on almost every conceivable type of machine, both ancient and modern. Almost everywhere the owners' keen interest in their machines was in evidence, and as many of the members are mechanics it was not surprising to find that, in many cases, the makers' design had been 'improved' in detail. For example, one of the most attractive outfits we saw was a Harley-Davidson, upon which the owner, a Mr Bateman, of Coventry, had lavished much thought, time, and money. The mudguards were of his own make, and followed AJS. lines to some extent. Each was made in one piece of heavy gauge material. The guards were certainly the best we have seen. Other improvements included a hot air muff on the induction pipe, a special type of extra air valve, a thief-baffling device, and a three-sided sidecar screen. The machine was very complete as to electric lamps...Another machine



“A 1915 4hp Triumph and Gloria sidecar, awarded the prize given for the best appearance at the NMCFU Rally.”

which created a great deal of interest was a 3½hp solo Sunbeam finished all black, with disc wheels, electric light, and chain-cum-belt drive, while near by stood a Premier ‘flying bedstead’, one of the machines with 3½hp single-cylinder engine and outside flywheel, etc, built for the 1914 TT. The owner had reduced the compression ratio and fitted chain cases...Almost every sidecar carried one or more small children, and picnic baskets seemed to be part of the standard equipment in most cases. The organisers had made arrangements to park the machines in groups according to the centres from which they had come [Portsmouth, Weymouth, Glasgow, Newcastle-on-Tyne, Sheffield, Manchester, Birmingham, Bristol, Coventry, Wolverhampton, Bedford, Nottingham, Leeds, Leicester, Lincoln, London, Derby, Liverpool, Barrow-in-Furness, Grantham, Rugby, and Ashby-de-la-Zouch]...One may regard the rally as historic, since many members are newcomers to the pastime...a cinema operator was very busy during the run out for the circular tour of ten miles. Later there was a demonstration by Coventry testers in fancy costume, which, however, we think, was not quite appropriate for a Sunday event. On the whole, the organisers, Messrs Murray and Mallilieu, are to be congratulated upon a very successful rally of members of the NMCFU.”



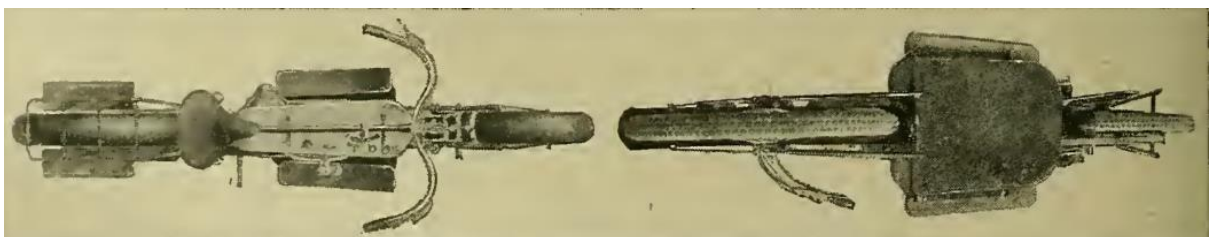
Left: "A well-equipped Harley-Davidson attracted much attention. The design of the windscreen is worthy of note." Right: "An all-black 3½hp Sunbeam, with disc wheels, the appearance of which was particularly admired."

"THE RICHMOND MEET—REVIVAL OF THE ANNUAL Yorkshire Intermeeting of Motor Cycle Clubs: To mark the opening of the summer season in pre-war days the North of England clubs held an inter-meet at Richmond, which was always well attended. This year's event, however, only attracted some seventy motor cyclists, which comparatively low number is accounted for in various ways. In the first place, a large number of club members have not yet taken delivery of their machines, and many others who were more fortunate took advantage of the holiday to go touring. However, despite the presence of threatening clouds early in the day, which induced several to don 'oilies' in preparation, members of the Middlesbrough, York, and Harrogate Clubs started for the venue, and by devious paths reached Richmond, which the first-comers found very quiet. As at every motor cyclists' rendezvous, great interest was displayed in new machines, but except for a few new Triumphs, BSAs, and a P&M, no post-war models were on view...Only one lady driver was seen, and she was on an old twin Peugeot with sidecar, which was driven from Middlesbrough. Mr J Stevenson arrived from Darlington with a 1913 5hp Clyno outfit carrying no fewer than five passengers—a load which he says the machine is easily capable of carrying. An old lightweight FN with a passenger on the carrier was noticed. The event this year proved to be a very pleasant affair, but future Richmond rallies no doubt will be more like those of pre-war days, when the secretaries of Northern clubs met to discuss summer programmes, and to arrange inter-club runs, and motor cyclists turned up in their hundreds."



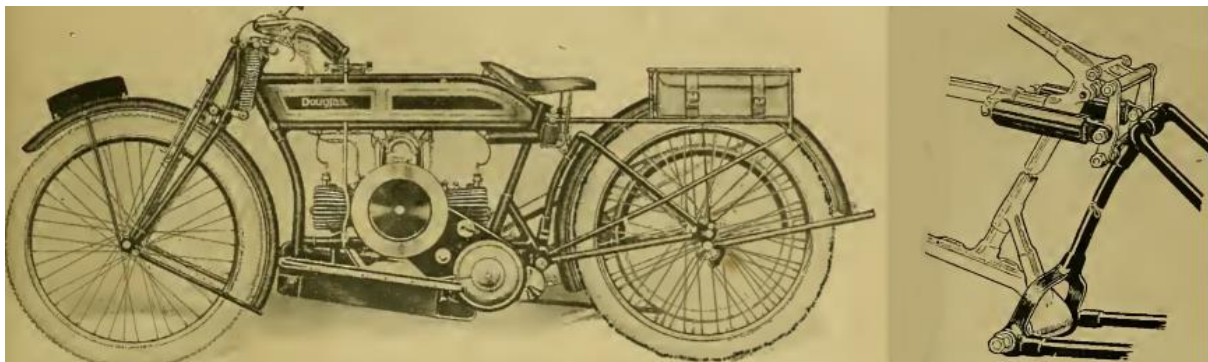
“Members of the Middlesbrough MCC, one of the several clubs at the Richmond Meet.”

WORLD-WIDE IS THE REPUTATION ENJOYED by Messrs Douglas Motors, of Bristol, the pioneers of the flat twin. A general engineering business, with a speciality in boot and shoe machinery, and an intelligent anticipation of the motor cycle needs of the public in taking up a small flat twin lightweight proved to be the foundation of the present important branch of the motor cycle industry. Then followed a remarkable run of success in competition on road and track, culminating in a still more notable success on war service on all fronts. Such in brief is a summary of the qualifications and experience behind this latest production, the 3½hp Douglas. Though retaining the general Douglas outlines, the 3½hp mount introduced for 1919 is in fact a complete redesign in every part. New as it is to the ordinary rider, the firm have subjected the model to extensive road tests ‘during many months, and now offer the 3½hp as a proved design, representing the result of their accumulated and unique experience. The volume swept by the pistons is a shade under 500cc, each cylinder being 68x68mm, and it is to be nominated 3½hp, but, of course, develops more...Perhaps the most unique point of this newly designed engine is its mode of attachment at three points only, two lower frame bolts and one upper bolt connecting the magneto holding-down bridge to the centre of the under tank tube. The advantage lies in the fact that the whole engine unit can be taken out of the frame in less time than it takes to remove a cylinder from the average single-cylinder engine.” The magneto could be removed without disturbing the ignition timing; a Lucas dynamo was an optional extra, driven from the mag pinion. The three-speed countershaft gearbox incorporated a clutch and enclosed kickstart; final drive was via a 7/8in belt. “The Douglas spring frame...is a complete departure from their



Left: Plan view of the new Douglas. Right: Underneath view of the machine, showing ample size of the undershield.

former practice, laminated springs being abandoned in favour of helical springs. The rear frame is pivoted behind the gear box bracket on a very wide, hardened and ground plain bearing; the upper point is connected through an ingenious pair of levers, whose function is to reduce movement, to a pair of enclosed helical springs placed horizontally on each side of the saddle lug. These springs (each being made up of two concentric springs) act in compression, and adjustment is provided to suit different riders' weights. Approximately, 3in movement of the wheel is reduced to about $\frac{1}{4}$ in on the springs. The carrier is sprung with the frame. Means of lubricating all moving parts are provided. For three years this spring frame has been under test by the Douglas firm, and so satisfactory is it in the comfort provided, hard wearing capabilities, and absence of lateral movement, that it takes a definite place in their future programme...There are deep valances on wide guards to both wheels, a substantial undershield with side valances fitting to the inner edge of the footboard, and, if required, flexible [leather] leg shields attached to a cross bar on the top tube...The cross bar is only dropped on, no fastening, the shields being buttoned down tightly to the front flange of the undershield.....they can be quickly removed and rolled up when not required. As a solo mount with empty tank the machine scales 231lb."



The Douglas featured revamped suspension, including helical springs.

"ACCORDING TO AN AMERICAN PAPER, Mr Duncan Watson, MIEE, the managing director of the British Harley-Davidson Co, is credited with having stated that the British post-war demand for motor cycles will not be satisfied until a million and a half motor cycles are produced."

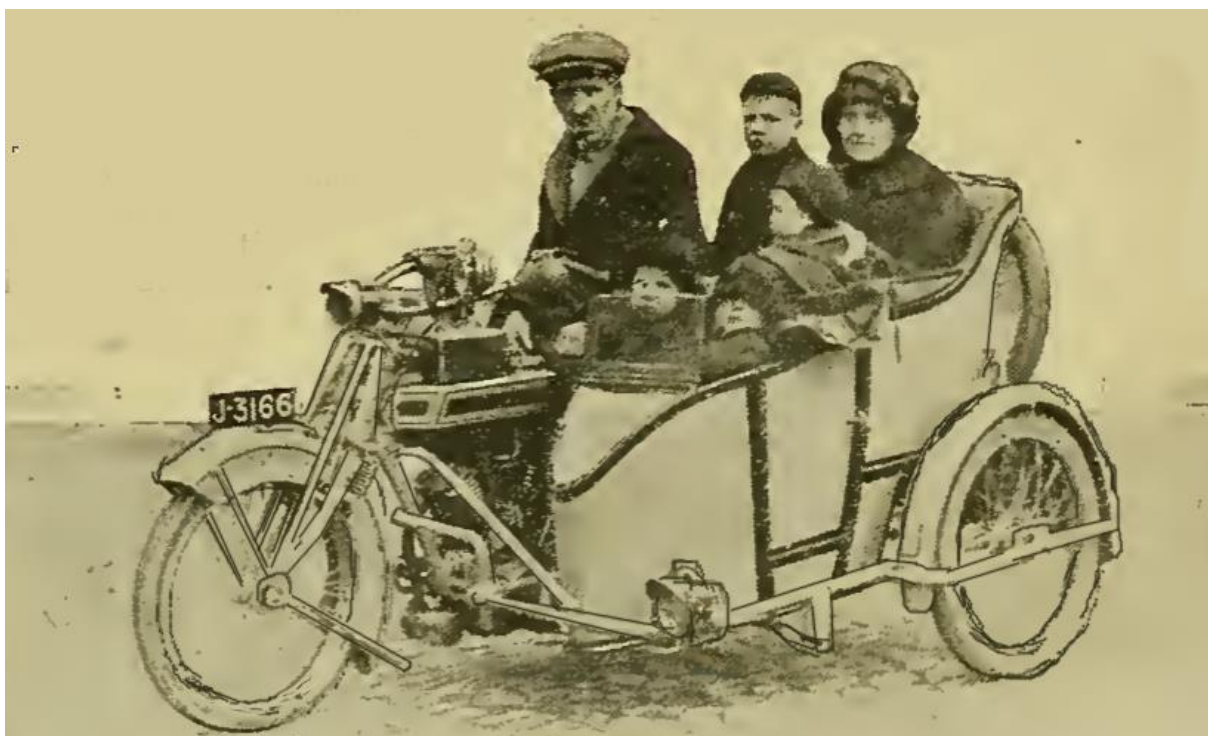
IN FRANCE GRIFFON AND CLEMENT resumed motor cycle production, each with a single model. The Griffon was a 6hp 748cc two-speed twin; the Clement was a 4hp 560cc two-speed twin boasting automatic lubrication. Terot also offered a 4hp twin (this one had a capacity of 624cc and a three-speed box) but it was joined by a 2 $\frac{3}{4}$ hp one-lunger of 317cc.

"COGNOSCENTI ON THE SADDLE: Among the machines on the Ripley Road last week-end were noticed a new Wooler, a twin Blackburne, a 1919 TT Rudge with handle-bars almost meeting the footrests, a gigantic JAP in a light frame evidently home assembled, one of the latest TT electrically-equipped Harleys purring along at an easy 40, and a

four-cylinder Henderson solo. Two-strokes were greatly in evidence, as was the ubiquitous Douglas.”

WELCOME NEWS IN THE BUDGET was an end to The Petrol Control Board, petrol licences and the tanner-a-gallon ‘supertax’ and a decision that no tax would be imposed on Benzole. With British production of Benzole exceeding 300,000,000 gallons a year there was talk of restricting Six Days Trial entries to bikes running on Benzole.

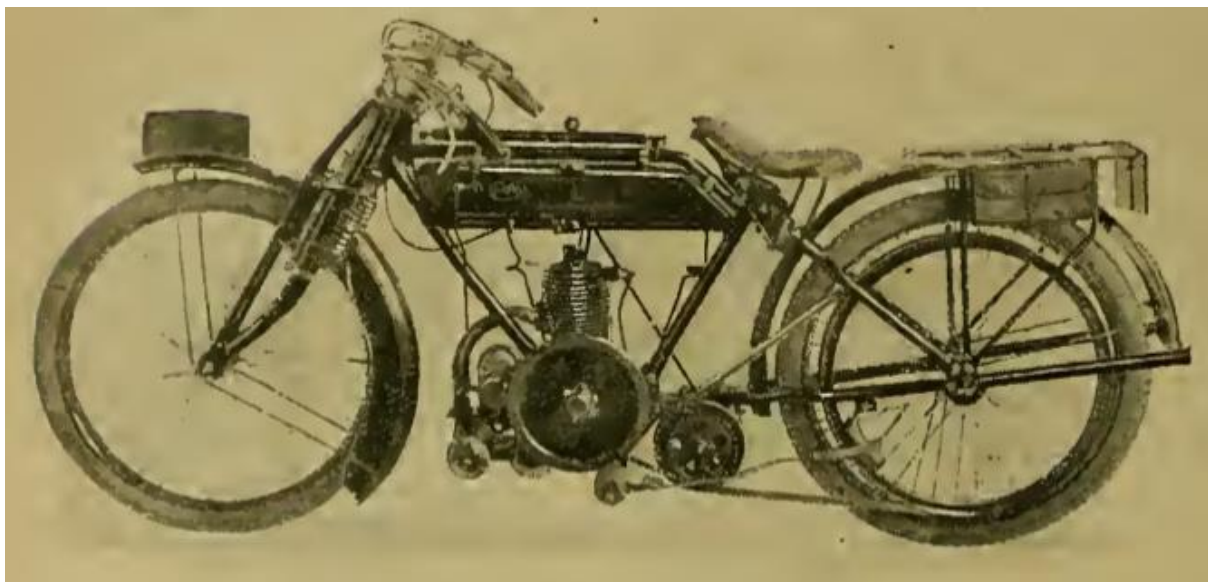
“NEAR A RIVERSIDE RESORT we saw recently a light racing outrigger skiff being transported a distance of some eight miles through traffic and country, turned upside down on a sidecar chassis. With about twenty feet of a delicately built shell sticking out fore and aft, the driving in traffic was a very ticklish matter.”



“The obvious advantage of the sidecar over any other type of light motor vehicle, so far as passenger accommodation goes, is well exemplified during the week ends. Sidecar outfits with four up are a common sight. The owner of the Clyno shown above appears to have solved the problem of carrying a family of six in a quite satisfactory manner.”

“CONSIDERING THE DEMAND EXSISTING for motor cycles at the present time, it is perhaps surprising that more new firms have not come into existence to take advantage of the popularity of the motor cycle. In the car world upwards of thirty new motor firms have entered the industry, and, although the call for motor cycles is even greater than for cars, only a few newcomers have been recorded. One of these is the Carfield Motor Cycle Co, of Smethwick, Birmingham, which, though handicapped by inadequate temporary premises, has made a good start with a two-speed two-stroke lightweight on the usual standard lines. It has a strongly built frame, particularly strengthened at the head, designed to accommodate the well-known 2½hp Villiers two-stroke engine unit,

with a standard Amac carburetter and a CAV magneto. The drive is taken through a Brampton $\frac{1}{2}$ in x $\frac{3}{16}$ in chain to an Albion counter-shaft two-speed gear box, of standard pattern. The drive to the rear wheel is by Dunlop $\frac{3}{4}$ in belt, and the 26in wheels, which are finished all black, are shod with 2in Dunlop rubber-studded tyres. Ample wide mudguards and a very substantial carrier are special features, the latter incorporating two metal-cased toolbags. The rear brake is heel operated, acting upon the inner side of the belt rim. The other points of the specification are: Lycett's pan saddle, semi TT bars, and Best & Lloyd sight drip-feed lubricator. A well-formed tank carries one and a quarter gallons of petrol and a quart of oil. The filler caps are of large size. Production commenced a few weeks ago, and several Midland agents have machines in stock, the selling price being £51."



"The 2½hp Carfield two-stroke. The engine is a 2½hp Villiers and the gear a two-speed Albion."

"MINISTRY OF WAYS AND COMMUNICATIONS BILL: THE following are. extracts from a memorandum prepared by Mr. Rees Jeffreys, late secretary to the Road Board, at the request of the Motor Legislation Committee, and which proposes a number of amendments to the Ministry of Ways and Communications Bill—"The Minister has undertaken that there shall be a separate Department for roads under General Maybury. General Maybury should be assisted by a Board Committee consisting of representatives of associations of highway authorities and traffic organisations. It should be provided that the Minister shall appoint a Road Committee of not fewer than ten members (exclusive of the head of the Department, who shall be the chairman of the committee), of which five members shall be representatives of local authorities, and five shall be representatives of road traffic problems. The following provisions are suggested: (a) That all roads shall be put into one of three classes. Class 1—Arterial roads or main lines of road communications. Class 2—Secondary roads. Class 3—Local roads. (b) That to Class 1 roads a grant of 50% per cent of the cost of maintenance

shall be paid; to “Class 2 roads 25%; Class 3 roads to remain a local charge. It should be provided in the Bill that the Minister shall have power, on the advice of the Road Department or Board to prescribe the minimum width of the arterial roads, ie to issue regulations providing that for the roads specified in the regulations no new building shall be erected within so many yards of the centre of the highway...Similar powers should ” be conferred, on county councils to conserve the width of Class 1 and Class 2 roads within their areas.” This memo marked the end of the old Road Board and the birth of the Ministry of Transport.



“A gathering of the members of the Portsmouth NMCFU prior to the opening run of this southern branch of the Union.”

IXION MUSED ON THE MOTOR CYCLE'S record breaking readership of 100,000: “I have never possessed 100,000 of anything except influenza germs. In a few years, when we touch the 200,000 mark, my successor's task will be much easier. The figure will doubtless approximate to the rpm of Granville Bradshaw's latest engine, or to the mileage of one of FL Rapson's unpuncturable tyres, or the Triumph weekly output, or the Douglas speed in mph for a flying start mile at Brooklands...Joking apart, those of us who have fought the long battle have lived enviable years. We can remember days when our pages were hard to fill and harder to sell. Now we know what it is to reject lots of interesting copy, and even—in war-time—to repress an over-robust circulation because our paper ration would not run to it. We have seen puny little foreign engines of extraordinary capriciousness gummed to the down tubes of ridiculously bad British frames, and disfigured by incredibly silly transmissions. By trial and error, by research and experiment, by pluck, brains and energy, we have seen British motor cycles climb slowly to the very top of their industrial tree, and even threaten ethereal ideals. In the dark days of the industry other journals have gone under, but we have never missed a week...Our belief in the future of a machine which was once deservedly despised and mocked at has been more than approved by facts and history...When this paper was founded there was no motor cycling community. This country boasted nothing more than a handful of isolated enthusiasts, pursuing a strange and unpopular pastime. To-day the pastime has created a special community of enthusiasts within the bigger community of the State; indeed, it is an international community international as

science, or finance, or Esperanto. As this journal has played its part in creating that community, so it still works to link its members together: and we of the staff are proud to share in the resultant freemasonry.”



“Should the deaf and dumb use motor cycles? In view of this question, which is frequently brought up in our columns, the photograph has exceptional interest. It is unique in the fact that the riders are all deaf and dumb. It is their intention to form a social and motorcycling club in the Midlands.”

“THE YANKEE TWINS ARE GOOD,” Ixion admitted, “but they are not competition-proof; and the number of their ’14 sales constitutes a market worth attack. Most of them give a rider more petty trouble than a first-class British machine, and the inevitable stage at which substantial repairs become unavoidable arrives earlier. They are quite absurdly heavy; 3cwt. is surely excessive for a solo ‘bus, and is not even to my mind pardonable on a sidecar hauler. The American front fork is good, but not better than two or three of the best European patterns: Americans have no essential monopoly of rear springing. Their much-boomed lubrication systems are not to be compared with the principles embodied in the new ABC. I am not by nature and preference a bestraddler of their cumbersome projectiles: I eschew sidecars, and find that a class 500cc will do all that a solo man requires so I must not be dogmatic on the secret of the spell that post office red or dove-grey with vermillion streaks has for so many eager buyers. I view the tug of war without animus. If the Yankee twins are really better, let them capture our 7-9hp market, and let the British rival take its medicine like a man. I merely point out that the Britisher has a splendid opportunity to make sure of this threatened market, that the 1914 sales contain pointers to guide him in diagnosing public taste, and that now is the time.”

NATALITE FUEL, TAKING ITS NAME from Natal, South Africa, whence it came, comprised alcohol, ether, ammonia—and white arsenic. It had reportedly performed well during six months of testing, producing almost as much power as petrol at a lower cost. “The statement that this fuel can be manufactured and sold at a price that would defy competition from the petrol companies is distinctly cheering. The one thing which now

stands in the way of the use of Natalite fuel in this country is the Excise regulation. We do not think that the Excise authorities are immovable, and we have reason to believe that, if they can be convinced that a suitable denaturant which will render the alcohol undrinkable will be employed, they will not raise insuperable obstacles-to the manufacture or importation of Natalite.” And that, it seems, was the reason for the arsenic.

“TO ASSIST MEMBERS HAVING MECHANICAL BREAKDOWNS of their cars and motor cycles, the AA and MU has instituted a service of ‘first aid’ motor cycle combinations. These vehicles are equipped with the necessary tools for dealing with roadside troubles, and are driven by competent mechanics. In addition to spares, covers, and tubes, first aid necessities for personal injuries are carried, also stretchers to enable serious accidents to be promptly dealt with. These machines are working in close conjunction with the AA. system of roadside telephones, and can be summoned by the patrols in charge of the sentry boxes at the behest of members needing their services.”



AA scouts were deployed to repair members' ailing conveyances.



AA 'First Aid' combos took to the road.



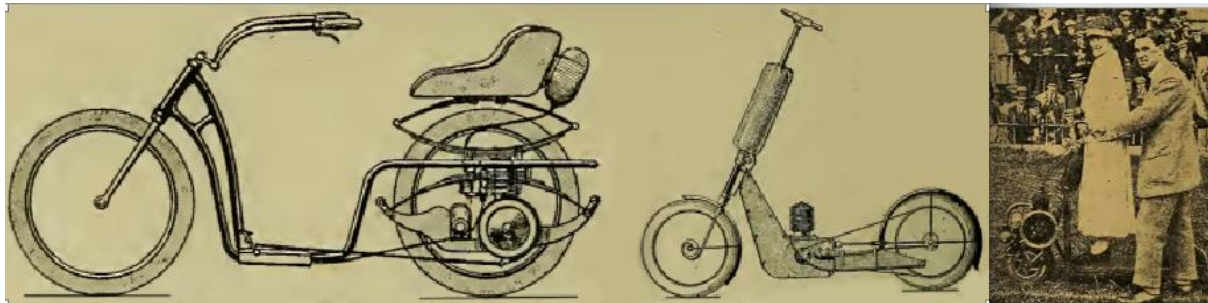
“A travelling workshop catering for motor cyclists in the Plymouth district. These motor vans have been in service for the aid of car owners for a long time, but up to the present very few garage owners have been sufficiently enterprising to cater specially for stranded motor cyclists.”

“BOCHE METHODS: WE HAVE RECEIVED AN ENQUIRY from a Belgian firm of cycle and motor cycle makers, Etablissements Scaldis, Antwerp. The pathetic nature of the letter will be understood when we point out that the firm are asking for the names of manufacturers of British plating accessories. The Germans stole the whole of their nickel-plating plant, and as they despair of ever getting it back they are turning to Britain to supply them. Doubtless some Boche is making use of the stolen plant, and rubbing his hands with glee at being able to obtain it so easily. It was by such dirty methods as these that the Germans hoped to win the war and annex the world's trade not only in bicycles and motor cycles, but everything else.”

“AT A RECENT MEETING OF THE Institution of Automobile Engineers Mr E Tilston said, ‘The word ‘accessibility’ should be posted all over the premises of motor cycle manufacturers, even at the risk of the workers taking to themselves the assumption that the managing director should be more get-at-able in future and listen to their grievances.’”

“IN ALL PROBABILITY THE REVENUE OF THE PATENT OFFICE during the next few months will be increased by fees for patents relating to motor scooters. Apparently the interest in this type of machine is not confined to this country, and inventors in the land where the Auto-ped is produced are endeavouring to design scooters, some of which leads one to suppose that there are others besides *The Motor Cycle* who ask the question, Why stand? One of the latest American designs incorporates a Smith Auto-wheel and a sprung bucket seat...it would seem that if the motor scooter is to secure a place in the world of mechanics as a separate type of vehicle, it must remain a scooter pure and simple, and its one point of advantage over the lightweight motor cycle, ie, compactness, must outweigh the points of superiority of the slightly larger vehicle with its higher power and greater sphere of utility. Another invention is the patent of London engineers, but here we have a scooter without the scooter's greatest and most

appealing feature, viz, its apparent simplicity. The inventors state that ‘preferably the rear wheel is driven by a belt, and a torque rod, having a right and left-hand screw to enable its length to be adjusted to the belt tension, is provided to keep the driving wheel in position...By disconnecting the torque rod, the rear wheel can be removed without altering the adjustment of the bearings thereof.’ The machine is intended to be sprung fore and aft by laminated springs, while the engine casing constitutes the main frame of the vehicle.”



Left: “An American design that incorporates a Smith Auto-wheel as the power unit.” Centre: “A British patent which conforms more to the lines of the original scooter than many recent designs have done.” Right: “The Autoglider, a new scooter manufactured by Townsend and Co, Birmingham, seen at the charity sports in that city last week.”

THE AUTO-WHEEL ALSO POWERED the LAD scooter, made in Farnham, Surrey. “The frame, which is registered, is of the open type with platform, and is fitted with a small wheel at the front, but in future models a larger size wheel will be fitted, probably of the same size as the rear Auto-wheel.” LADs came with a choice of new or “thoroughly overhauled” Auto-wheel engines. The Wynne Scooter, designed by Manxman W Oates, had a 2¾hp two-stroke engine and, as well as a seat, boasted coil-sprung forks and leafspring rear suspension. Deeply valanced mudguards came in two halves to facilitate wheel removal. With footboards only a few inches from the ground the Wynne clearly wasn’t designed for fast cornering. “The whole is enclosed by a cover, which has convenient doors to give access to the engine, etc. 16x3in disc wheels are fitted...It is the intention of the designer to embody a small dynamo for lighting front and rear lights.”



Left: “The LAD scooter, embodying an Auto-wheel.” Right: “The Wynne scooter, fitted with a two-stroke engine of 2¾hp.”

“THE DOUGLAS FIRM ARE PROUD to find that amongst many items of interest which came to light after the Armistice is the fact that the Huns, having captured a Douglas electric power generating set, produced an almost exact copy under the name of the Bosch, presumably made by the magneto firm. So near a copy did they make that many parts of the flat twin engine are interchangeable with Douglas parts. Does this herald an attempt at a German flat-twin motor cycle? Will the German firms be allowed to continue infringing English patents after peace is signed?” *Far be it from me to stir things up but jump forward to 1921 and you’ll find the story of an excellent engine produced by a German aircraft engine specialist by the name of BMW. Just like the Duggie, it was a vee-twin...*

“THE DENE MOTOR CO, NEWCASTLE-ON-TYNE, are specialising for this year upon the production of a big twin machine. The specification includes 8hp V JAP engine, with Blic magneto behind engine, driven by chain from engine shaft. This design is a distinct ‘breakaway’ from standard, and brings the contact breaker to the right hand side—a great convenience in sidecar machines.”

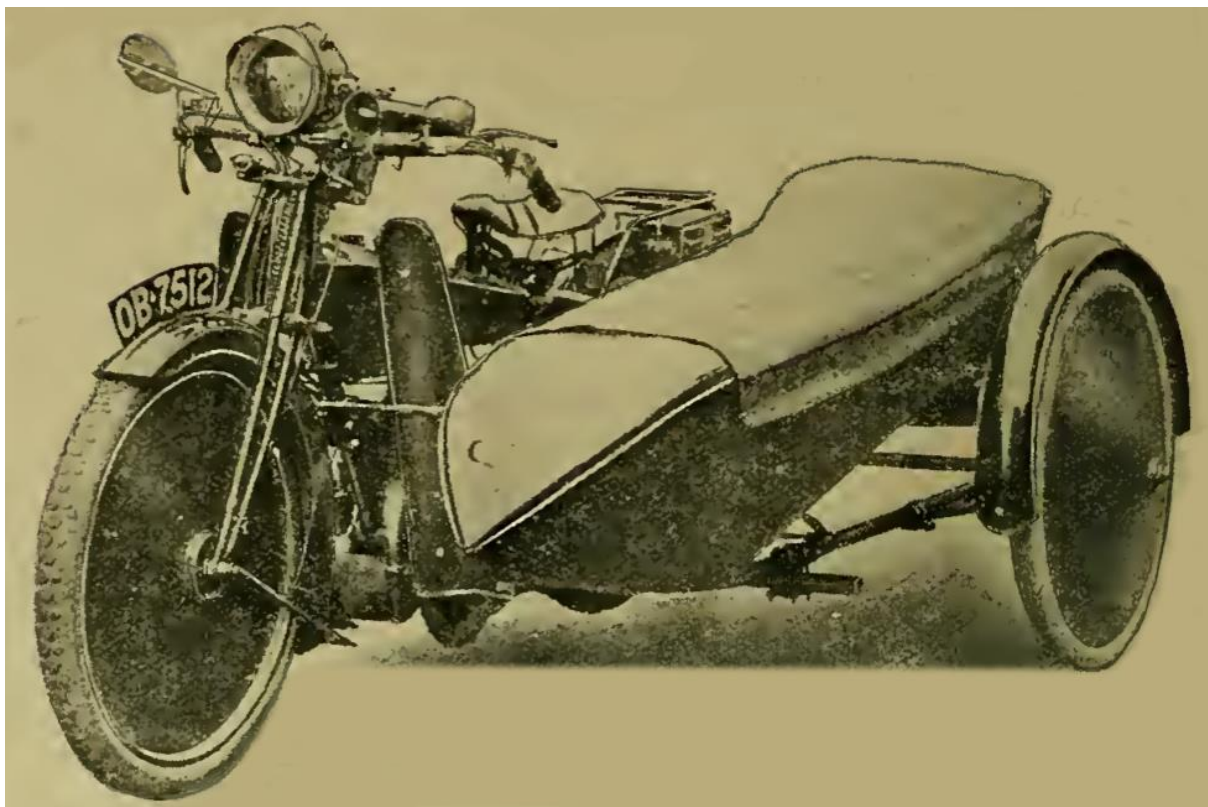
“IT IS ONLY A QUESTION OF TIME when the entire motor cycle industry will recognise the enormous use that can be made of stainless steel, and it may be expected that many makers in the future will use it for valves and exposed metal work. Stainless steel is a chromium alloy steel, with the composition of 12.5% chromium and very low, .28%, carbon, the rest being iron and the usual impurities. Its outstanding peculiarity is that it is perfectly impervious to atmosphere corrosion...Enamel work can be dispensed with, and, if desired, an entire frame be made with it, as it can be readily drawn into tubing. It can be pressed into rough or accurate shapes for control levers and nuts. Spokes and rims can be made of it with the greatest of ease. Of course, its greatest work can be done for valves, scaling is unknown with rustless steel valves.”



The Motor Cycling Club’s first peacetime event was a speed-judging trial near Potters Bar. Entrants were asked to complete three laps of a five-mile course: the first at 16.5mph, the second at 18.5mph and the third at any declared speed between 10 and

20mph. The winner was ML Luifi (4¼hp BSA) with an error of 47sec; followed by EC Hemy (2½hp Metro-Tyler) 1min 20sec; and V Olsson (4hp Douglas) 1min 21sec.

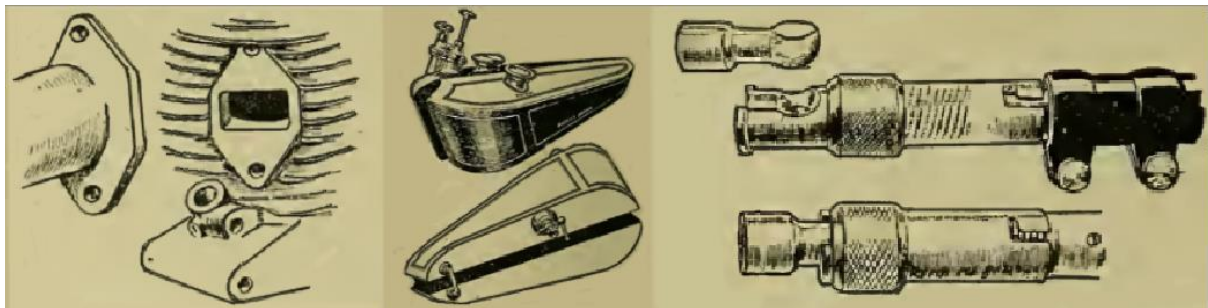
“IF EVIDENCE IS WANTED TO PROVE that the two-stroke lightweight is as popular as ever the order files of the majority of two-stroke makers will supply all that is needed. Messrs Alldays; and Onions, for instance, have been obliged to refuse further orders for some time, as the demand was much in excess of the present output of their works. They are not alone in this respect; many other manufacturers are ‘snowed under’ with orders. Conditions are improving, and every week witnesses progress. Although there are many improvements in details which make for increased accessibility, the latest models are substantially the same as the former Allon production. The engine unit is now assembled and aligned complete with the gear box, magneto, and silencer on the bench, and the whole placed in the frame en bloc. When being decarbonised, the cylinder remains in situ, the crank case lower half is dropped, and with it the tywheel, shaft, connecting rod, and piston. The necessary scraping can be done through a large port in th’e liead which carries the release valve dome. The exhaust port has been redesigned, and the pipe is now attached by bolts through two lugs on the pipe. Frame and tank construction form



“The latest Allon two-stroke with a Canoelet-mirror sidecar and rally wheel covers.”

the principal improvements. Messrs Alldays claim to be the first to introduce the saddle tank, and all future Allon models will be fitted with a very smart double tank, saddled over the sloping top tube. A U-shaped pipe connects the two compartments at the rear.

A sump and filter over the petrol tap is a good feature...Efficient metal leg shields are now a Rally wheel covers are specially fitted standard fitting, also small aluminium covers over the front and rear hub band brakes...The model illustrated is a special model and although the makers do not intend this lightweight for use with a sidecar, it is quite capable of giving much good service withing reasonable limits. The Canoelet-minor sidecar as fitted is probably one of the lightest attachments obtainable, but it cannot be termed roomy, and is only suitable for a small person. Nevertheless, a run of several miles in Birmingham traffic, and incidentally over tramlines and cobble paving in an atrocious condition, served to show its capabilities; although rider and passenger were each about 11 stone, the second speed was very seldom needed. The firm's recently patented sidecar lugs are now being made, and give promise of being an excellent fitting. The ease with which they can be manipulated will be the chief advantage; the possibility of detaching or attaching a side- car by hand, without tools, is certain to appeal to sidecar owners."

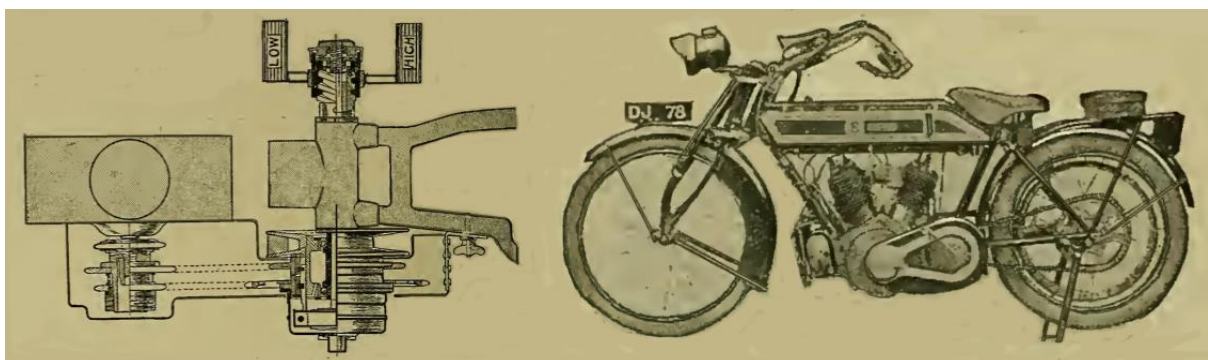


"A new type of exhaust pipe connection which takes the place of a manifold cast on the cylinder. Two views of the saddle tank of the Allon; note the large filler caps, connecting pipe, and the sump over petrol tap. The Allon spring sidecar coupling—the bayonet fixing can be operated by hand with ease."

BH DAVIES (WHOSE ALTER EGO WAS IXION) wrote in praise of what was, even in 1919, 'old-school' motor cycling. "It is a little difficult to define what one means by a 'sporting' motor cycle. For some folk the mere externals of the machine fill the bill. Drop the handle-bars, remove the entrails of the silencer, wear a leather skull cap, with sausages over the ears, fit a speedometer dial graduated up to 80mph, and then you are a sportsman. For another type of mind it is enough to own a machine of a make which has figured largely in the archives of Brooklands and Manxland, and on occasions to ride it rather fast. For persons of a truly detestable kidney, the word need not mean more than to find Kingsway clear of traffic and free from police, to roar up it at forty with an open exhaust, making everybody stare, and then to shut down and creep winking into Holborn with the air of being 'one of the boys'...In 1914 the Rudge team for the Scottish Trials was entered with belt drive and a bottom gear of 6½ to 1...Probably neither the firm nor the riders were aware of the calibre of the hills along the route. Had those hills been even moderately straight, the high-gear Rudge would have stormed thegi at terrific speeds. But you cannot climb precipices on a high gear unless you can keep up

your revs and you cannot keep up the revs, on a 6½ gear round comers which represent a Cubist artist's impression of a true lover's knot. At the start the cognoscenti averred that the first big hill would behold the debacle of the Rudge crowd. But they had not reckoned with the sportsmen in the Rudge saddles. I have admired many motor cycling deeds of derring-do, but I never saw anything finer than the pluck and skill of some of the Rudge jocks. They swept up to those appalling corners—'blind' ones, in some cases—at crazy speeds. They 'lay over' as far as their footrests would let them till their bicycles assumed the angle of a spun penny on the verge of collapse. They cut their engines out at the psychological second, wrenched the hurding jigger round in a steep 'bank' and slammed on full engine again. If they fell, as sometimes had to happen, they were up and running furiously to re-start on 1 in 5 goat tracks before any man could lift a finger. This was sporting work, jewelled and machine polished. They were setting their mounts at fierce, dangerous, all but impossible feats...Tone down the Rudge picture a little, and what sort of riding contains more zest and thrill to the square millimetre? The 500cc single-gear, belt-driven for preference, can be taken almost anywhere in Great Britain by the right sort of man...Having no gear box or free engine wherewith to camouflage indifferent tuning or clumsy driving, the sportsman must know his machine inside out. A new machine of this pattern will start in two years; three months later it may need a lot of pushing about unless the owner studies and pets it. Ham-fisted work with the controls reveals a rider's deficiencies: he tries to cross London from north to south or east to west on it, and spends a sweaty, swearsy couple of hours, conking out behind slowed taxis or seeking a cranny in the traffic big enough to give him vantage for a starting run. A month later his deft forefinger slides the throttle in quarter-millimetres, toch—toch—toch (very slowly, leaving room ahead), and then in quick time, tockety, tockety, tockcty, as a gap opens and he nips through the block with never a dismount. When the surge of packed vehicles comes to a dead pause, he must stop with them: but, knowing his job by now, he is restarted on the decompressor before the 'busmen have let their clutch pedals up...If traffic is perhaps the supreme test of single-gear driving, hill work is certainly a very close second, even in England where real hills are far to seek...Years ago the late IB Hart-Davies and F Hulbert used to go 'prospecting for pimples' on single-gear Triumphs with adjustable pulleys, and 'HD' told me shortly before the crash that killed him that flying was no better fun than these hill-jaunts. I have ridden many, many thousands of miles on tour and in trials, but 1911 stands out as my golden year. I rode a 3½hp Rudge with an NSU gear giving a 5¾ to 1 gear, plus incalculable friction. It was always touch and go on the knuckle of a really bad hill; and that kept me fresh and interested, for quite a lot hinged on every feel of the carburetter levers. In the garage your single-gear TT belt-driven is as docile as a baby two-stroke—you can lead it about with a forefinger, or pick it up and dandle it. Outside the garage door you can heave it off without appreciable effort, whether the road be steep or flat. Get it running, and nothing short of a racing car has the same pep and life. It answers its spark and throttle as a live thing should. Its noise is clean just the bark of the hot gases

behind you, and the sharp clack of the tappets near your right knee—no confused smother of squeaks and rattles and growls from a hundred different stresses in as many frictional parts. And the simplicity of it! When the back tyre begins to thump, off with a couple of nuts and the wheel is adrift. If you keep a watchful eye on the belt in the garage, you need never touch it by the roadside, unless you venture among mountains in a wet week. There is nothing else to go wrong, except the veneer of tune: and the sportsman enjoys tracing those lost 100rpm, or the secret cause of a growing sulkiness in producing the first pop...Let the dud rider pack the panniers till they bulge: strap a flat case on the carrier, containing umpteen spare chains in greaseproof paper, a £2 case of magneto bits, and other absurdities; and finally ruining the set of his jacket and breeches by depositing further reserves of greasy ironmongery in his pockets. What does the single-gear man carry? A Patchquick set. A 4in King Dick. A knife. A belt punch. Maybe a 'plus sign' vestpocket screwdriver. Not much more. Moreover, and for similar reasons, he is protected against one of the more ridiculous instincts of our fallen nature. I mean the 'acquisitive' faculty by dint of which accessory dealers wax fat. Put the average motor cyclist down in front of the proper counter at Gamages, or Hunts, or Dunhills, with £5 in his pocket, and he will have to walk home in nine cases out of ten. His purse is the sole limit of what he will buy. Leather cases for belts and inner tubes and plugs and tyre kit. Mascots galore. Map cases. Watch cases. Containers for spare carbide. Weird alarms. Patent switches. Reverse mirrors. Badges. Muffs and gloves. Body belts. Goggles. Lubricators in amazing variety for every component of the machine. Tail lamps by the half-dozen. Densimeters. Voltmeters. Ampere meters. We all do it. I've done it. I shall do it again shortly. But you cannot insult the self-respect of a single-gear TT by bedecking it with these pretty toys. The girl? Ah, there's the rub. When the hateful Percy comes along with a sprung wheel sidecar and electric dynamo and exhaust footwarmer and windscreen, you think he'll cut you out! Let him. It's a sound test. If she's after money and comfort and swank and soft cushions, let her go. It is not every girl who is worthy of a seat on the carrier of a fast TT: and those who are generally make good wives. But—just pour passer le temps? Oh, run away and get a four-speeder with a sidecar if you can afford it.



This Matchless twin was an out-dated single-speeder until it was fitted with a Rigby two-speed gearbox and clutch. The Rigby also facilitated a move to an all-chain

transmission and a kickstart. "This gear is specially suited for all Triumphs from 1906 previous to the countershaft model, Bradbury, Matchless, Premier, Rover, BSA, Rudge, Singer, and similar machines with pedalling gear." It was said to be "adaptable to almost any machine having pedalling gear".

"MOTOR TAXATION AND THE ROADS: The following resolution was unanimously passed at a recent meeting of the Motor Legislation Committee: 'This Committee regrets that no assurance has been given by the Chancellor of the Exchequer that the proceeds of taxation upon motor vehicles and motor fuel shall revert to the purpose for which it was originally imposed. The increased taxation was accepted by the motoring organisations in 1909 on the understanding that the proceeds should be devoted to the Road Improvement Fund, and be administered by the Road Board. This revenue was diverted to the general purposes of the Exchequer in 1915 as a purely war emergency measure. This Committee desires to record its opinion that the restoration of the Road Improvement Fund from January 1st 1919, alone affords highway authorities the assurance of the financial resources to carry out the urgent work of road reconstruction and improvement necessary to meet the immediate requirements of all classes of road traffic; and, further, that until the Central Road Authority has secured an annual income, they will be unable to exercise their borrowing powers, by which alone sufficient funds can be raised to carry out at once a national scheme of road reconstruction.'"

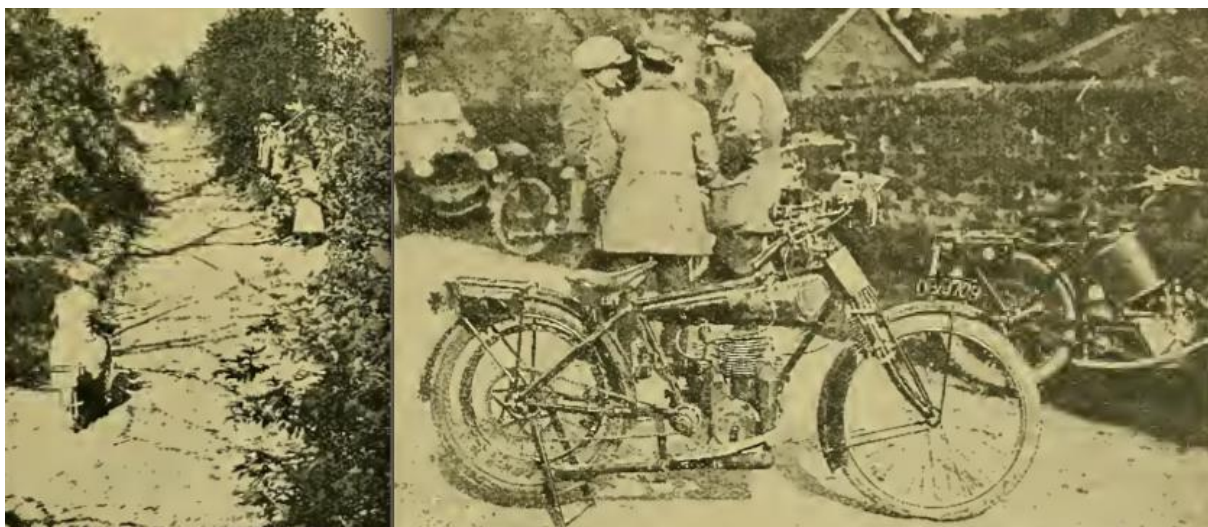
"THE POLICE ARE VERY ACTIVE on the Kew Road, from Kew Bridge to Richmond, at week-ends. Many motorists enjoying the opportunity afforded by the spring weather fall victims to the policemen's stop watches. A ten-mile [10mph] speed limit begins near the end of this road, just on entering the town."



The Birmingham MCC staged a two-day 'touring trial' to Llangollen and back; of 41 starters 34 made it back to Brum on schedule. From left: The start. HP Cutler (Norton outfit) signs in at Llangollen; he went on to win the premier award. A Quadrant with Tom Silver in the chair at the end of the first day's run.

"THE SUTTON COLDFIELD AND MID-WARWICKSHIRE Automobile Club usually opens the competition 'season' with the Colmore Cup trial, which, before the war, probably attracted more entrants than any reliability trial organised by a motor cycle club. This year, however, the manufacturers were not ready for a Colmore Cup trial in February or March—and perhaps the Sutton Coldfield Club was not ready to organise it—so to mark

the opening of activities [in May], they held an opening half-day trial over a thirty-seven miles course, which proved to be a sporting event. There were two observed hills—both in the same non-stop section—and the two features of the trial were route finding and speed judging. The course was not marked in any way, neither did the route cards mention any place by name nor give any distances. Competitor's did not know whether the course was forty or sixty miles. They were provided with a direction card which they had to follow at 18½mph, and speedometers were barred; so, altogether, to the competitors, it was a most sporting event, and by no means could the speed judging be termed speed guessing, since they had to average the speed mentioned over the whole of the course." The trial was based on the Levis works in Stetchford. H Greaves (350cc Calthorpe-Precision two-stroke) won the Levis Cup with a time error of 1min 17.2sec; A Milner (2½hp Diamond-JAP) won the Club Gold Medal (1min 15.4sec); Seymour Smith (2¼hp Ivy two-stroke) won the Club Silver Medal.

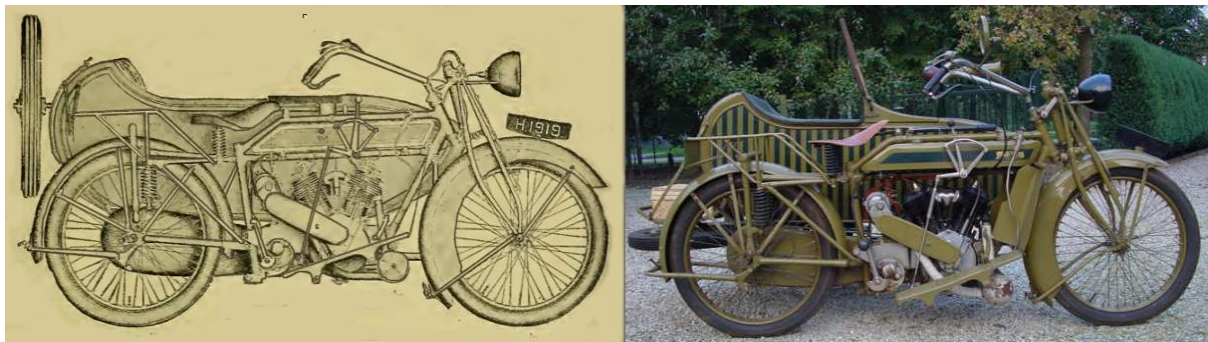


Levis Cup winner H Greaves romps up the observed hill. Right: his Calthorpe-Precision.

"A PANACEA FOR ALL ILLS: A correspondent complaining of over-heating of his engine enquires whether he had better submit it to an engineer for overhaul or fit a steel cylinder. There is something fascinating and wonderful about steel cylinders to the lay mind, but in this case a pair of new tyres would probably be as effective."

"IT HAS BEEN KNOWN FOR A LONG TIME that we have been in sympathy with any scheme which would enable discharged soldiers to purchase surplus Government motor cycles at a reasonable figure. The ACU is also in sympathy, and has been in communication with the Surplus Government Property Disposal Board with a view to persuading them to adopt some scheme which would enable ex-DR's and other discharged soldiers either to purchase their old machines or other Government motor cycles at a reasonable price. The Disposal Board has replied to the effect that it has not been found possible to grant preferential treatment to ex-service men, and that the object of the Board is to sell at the highest possible price so as to relieve the tax-payer."

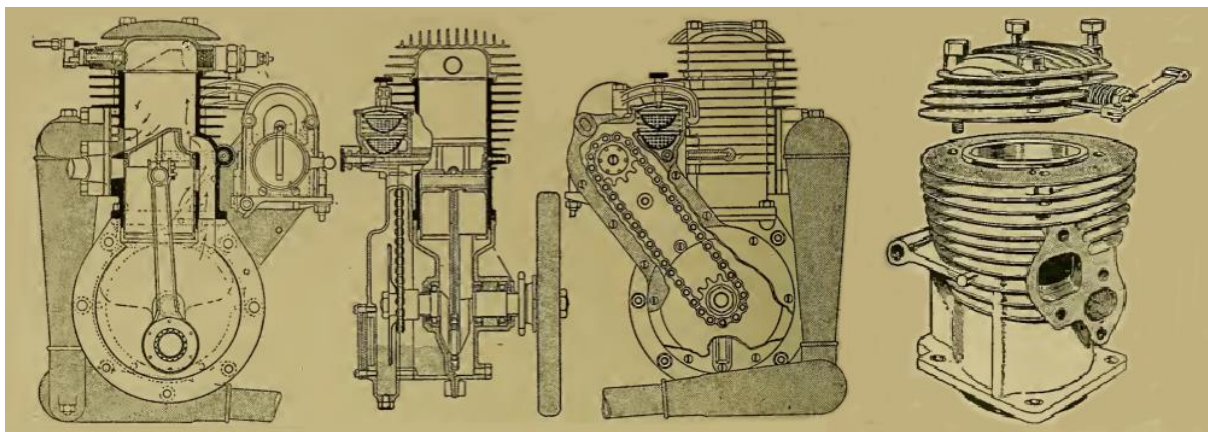
“SINCE EARLY IN 1915 MESSRS H COLLIER and Sons have been experimenting with spring frames for motor cycles, and no doubt, but for the war, a spring frame Matchless would have been offered to the public in 1916. In 1915 we described a flat twin Matchless which embodied a spring frame with coil springs, and the new Model H, as the Peace model is called, has a springing device which is a modified design of that fitted to the flat twin, and gives an exceptionally large movement to the rear wheel. The springing system differs in many respects from others embodying coil springs, which are carried at the outer corners of two triangular members rigid with the frame. The wheel fork is pivoted at its inner end, and a substantial loop passes vertically over the wheel, having at its lower end lugs for carrying the springs. The design embodies an ingenious arrangement of linking both driving and sidecar wheels. This synchronises the movements of both wheels, and prevents the driving wheel from leaning when turning corners. Other features include an automatic exhaust valve lifter connected to the starting pedal, and interchangeable wheels.”



“The new 8hp Matchless will have the rear portion of the frame suspended on coil springs.” As this survivor shows, the Peace model still wore warpaint.

“OVER SIX MONTHS HAVE ELAPSED since the first Armistice, and each week that slips by more and more accentuates the difficult position in which the British makers of motor cycles find themselves. High prices of materials and labour difficulties, together with a scarcity of many of the vital essentials, combine to retard and restrict output, with the obvious result that those of their foreign competitors, who have not so suffered from the effects of the lengthy period of disorganisation and diversion from their ordinary business routine, are taking steps to secure Overseas trade by establishing business centres and organisations in likely countries. The temporary expedient of restricted imports and a tariff have eased the internal situation somewhat, from the makers’ point of view, but pity the poor rider! Although the action of the Swedish Government in placing a temporary embargo on further imports of American machines into that country is indicative of the great activity now proceeding, the immediate establishment by the United States of central business bureaux will give them a precedence that will not be easily regained by the British manufacturers, who have still a long way to go before they get their own house in order.”

“At the present time motor cycle front wheel brakes have a bad reputation generally, though it must be admitted that there are several good examples to be seen on the road. This has come about from the too slavish copying of cycle practice. What is good enough for a cycle may be inadequate in the case of a motor cycle on account of its greater weight and speed...That a rider should habitually ignore his front brake, or worse still remove it, is a reflection upon the ability of the motor cycle designer, just as to fit two brakes to a rear wheel (a too common practice) is tantamount to a confession of incapacity to design a satisfactory front brake. Some firms are, we know, giving consideration to this important detail, but we fear that others are not, and therefore we have not yet seen the last of the front brake upon the tyre rim, which makes its presence felt most acutely when it becomes necessary to remove the front wheel for tyre repairs.”



Precision launched a 350cc two-stroke proprietary engine: “After an all-out run with sidecar, the engine was no hotter than is an air-cooled engine of the four-stroke type after it has been running for a short time. This demonstrated that the designers have succeeded in making an advance on pre-war design of the three-port two-stroke engine...the new Precision, has a detachable head, which is an innovation in two-stroke engine design...there are too few machines in this class for the solo rider who requires something more than a 2½hp lightweight and a mount of lighter weight than the dual-purpose ‘3½’, and no doubt there is a future for a 350cc two-stroke of the Precision type.”

“FOR SOME TIME PAST A CONSIDERABLE AMOUNT of experimental work has been carried out in the evolution of a practicable scooter by Messrs ABC Motors, which has now reached fruition...the ABC ‘Skootamota’ is an extraordinarily diminutive and compact bicycle, yet directly one takes the saddle and assumes control of the machine an impression is immediately evident that it is built for ease of handling and the utmost simplicity of control...The engine has a single horizontal cylinder with a bore of 60mm and stroke of 44mm (125cc), and, although only rated at 1¼hp the engine is easily capable of giving 2½hp under normal conditions. The cylinder head is detachable complete with the valves, which are mounted opposite to each other in the cylinder head casting, the exhaust valve being overhead for cooling purposes. In order to give

additional comfort a special pan saddle of extra width is employed, and rubber shock absorbers are fitted under the footboard on the main frame. There are also rubber supports at the front end of the board...In taking a trial run with this miniature motor bicycle (for in effect it is no other) we were pleased with the manner in which the machine could be used and controlled. It should make a distinct appeal for short journeys and general town runabout purposes, where constant stopping and starting are necessary. We found the machine comfortable to ride and able to ascend the moderate hills in the locality in which our test was made with no signs of overheating. Owing to the small overall dimensions it is possible to ride the machine through narrow spaces in comfort at three miles per hour where it would be unsafe to pilot an ordinary motor bicycle, and a great point in its favour is that it requires little effort to start while in the saddle, merely a single push of the foot being necessary. This, the newest of the many ABC productions, can also be used with success in journeys of some length, such as from outlying farms into neighbouring towns, largely for the reason that the rider is seated on a comfortable pan saddle instead of remaining in the standing position; it is suitable for narrow lanes, it climbs hills comfortably, and the petrol tank will hold sufficient fuel for a run of fifty miles. It is possible to traverse a circle of 9ft diameter with ease, while the engine is throttled down, and since the maximum speed of this scooter is about twenty miles an hour it is possible to accomplish ten miles an hour with reasonable comfort for journeys of moderate length. As the machine only weighs 60lb, and is compact and easy to handle, an attractive point is that it can be stored away in any handy place in a house or shed, and is ready for use at a moment's notice."



According to the man from *The Motor Cycle* the Skootamota "confirms our contentions that the scooter is the ultra lightweight in embryo, for it embodies nothing which is not more or less motor cycle practice."

"SIR,—LET US HAVE THE SKOOTER, SCOOTER, skoota, or anything else that by running, rolling, skipping, or hopping with us on its back gets us to our destination, and, incidentally, causes us pleasure, but it looks very much as if the scooter is going to be merely a weapon of amusement. That is to say, one can do on a push-cycle a great deal

more than on a scooter; and if speed is required we must get a real motor cycle. The powers that be warn us against luxuries, and it looks as if the scooter is going to prove one. Good luck to the cycle and motor cycle makers, and to the scooter makers too, if they can plant their product on the foreigner, but it looks very much as if the scooter is just one more damfool luxury—and those of us who are not grocers or munition makers are not buying luxuries now. Because the Americans started scooters, must we? They have a President Wilson, a Meat Trust, and ‘dry’ legislation, too. Do we want them? I *don’t* think.

THC, Inston.”

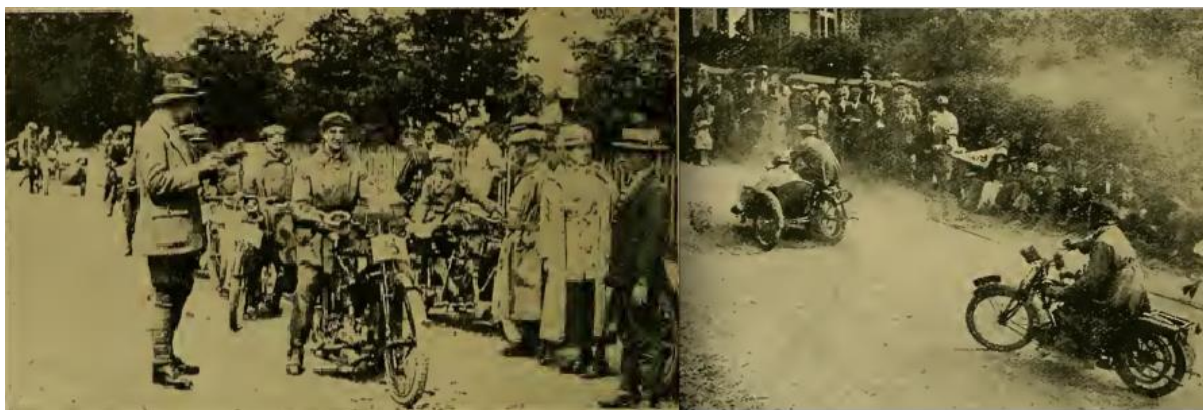
“ANOTHER FORD RUMOUR: It appears that a large aerodrome in County Antrim, which has been occupied by the RAF, has been purchased by Henry Ford, and on this it is stated that a huge works will be established for the making of motor cycles to be sold at £10 each.”

“THE PREDOMINANCE OF SIDECAR MACHINES over solo mounts now on the road is most marked, and where the single track machine is used fully 50% carry a passenger on the pillion. In club runs especially is the popularity of the passenger machine made manifest: as an example, at the Redditch & DMCC opening run last week between thirty and forty members were present, only two of whom were riding solo.”

“THE OFFICER COMMANDING a Motor Machine Gun Battery writes from the Caucasus: ‘All the best men in this battery who served with me in France were recruited by *The Motor Cycle*.’”

“WE PERSONALLY KNOW a motor cyclist over sixty years of age. Others of mature years are to be seen on the road, and it would be interesting to know who is the oldest motor cyclist.”

“THE TREASURY HAS SANCTIONED the purchase by the GPO of 500 motor bicycles for the carrying of mails. The experiment will be confined to London at first. Motor cycles have been used by the US Post Office for many years, and we do not doubt that their use in England will be most successful. It is wonderful how slow the Government have been in realising the value of motor cycles until the war forced it upon their notice. For years the American police have employed them, while the only interest the British police force have taken in motor cycles has been the trapping of their riders.”



“Magnificent weather favoured the competitors in the Coventry and Warwickshire MC non-stop reliability trial, when thirty- four members started over a sporting course for the Manville trophy...TR Gibbins (4hp Rex) being timed away...Capt HD Teage (4hp Triumph sidecar) restarting on Sunrising, with K Haziewood (8hp Hazlewood) behind.”



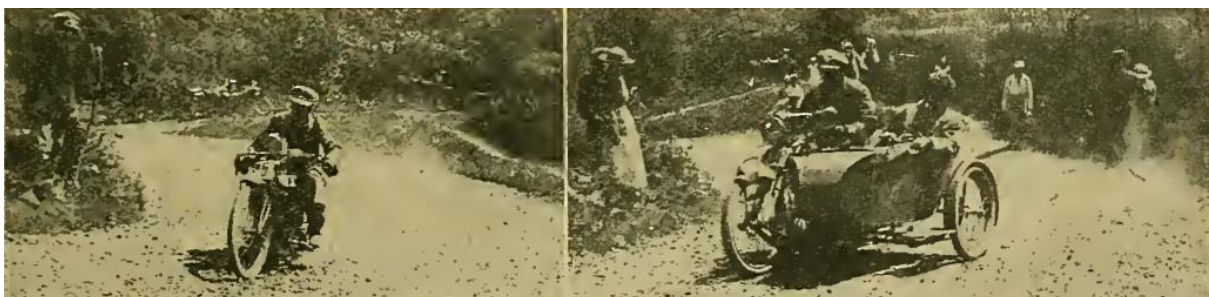
“The first and open hill-climb of the Scottish season was held by the Glasgow MCC. The venue, which was kept secret, turned out to be the famous Rest and be Thankful hill, well-known to competitors in the Six Days Trials...JW Walker (3½hp Norton) at the start...A Brash (7-9hp Harley-Davidson taking the bend on Rest and be Thankful in good form.”



“At the Northamptonshire MCC hill-climb standard touring machines were made to climb Doddington Hill at their highest and lowest speeds on top gear. The hill was 550 yards long with a gradient of 1 in 5, and each competitor had to make a standing start, returning to the bottom of the hill after his fast ascent and then making a second top gear climb in the ‘slow’ test, the difference between the two times deciding the results...HJ Bagsley (pictured) won the heavyweight class on a 6hp Rex.”



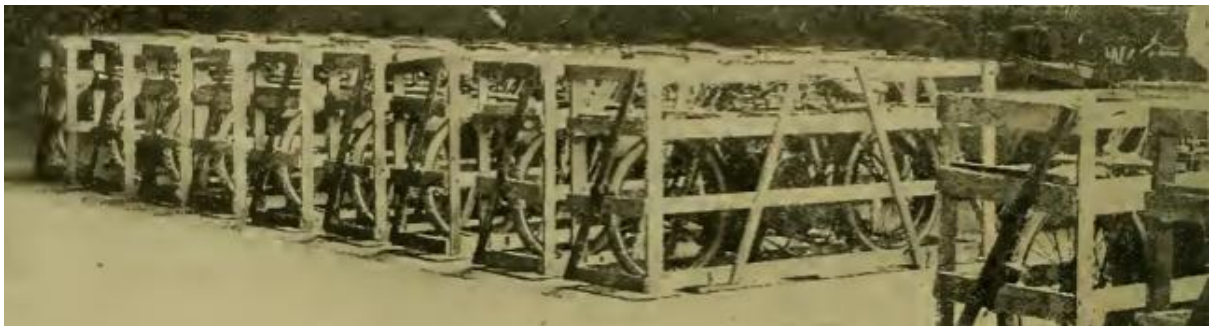
“One of the competitors in the ‘potato race’ event at the Hull AC&LCC gymkhana. Sidecars being timed away at Didsbury in the reliability trial held by the Manchester MC.”



“Scenes on Porlock during the Birmingham MCC Trial for the Lycett Trophy. (Left) CH Hartwright(2¾hp New Imperial). (Right) L Newey (4¼hp Ariel sidecar). Both competitors completed the double journey.”

“AT THE ROYAL AGRICULTURAL HALL, Islington, under the direction of the Surplus Government Property Disposal Board, some 300 motor cycles and sidecars were offered by auction...buyers, and would-be buyers, came from all parts of the country in

search of bargains. In fact, a queue some 300 yards long had formed before the opening time...It had been hoped that the machines offered would be of better quality than those previously put before a none too enthusiastic public, and also that this sale might mark the decline of the fallacious and exorbitant price reached hitherto. Neither of these hopes was gratified, and there were a great number of machines of the type now referred to as Kempton Park models. It is true that, within crates, in the centre of the hall were rows of Douglas 2¾hp and 4hp machines which had never been issued to troops, but on either flank was a hopeless collection of rusty, incomplete motor cycles in the last stages of decay and filth. Even the machines which had not been issued were, in the majority of cases, unrideable, since the tyres had decayed until ominous cracks showed round the walls. The rostrum was a raised platform on which was the auctioneer flanked by the military. In front were seats for some 300 people, around stood a huge crowd; and in the future it would be well if the auctioneer were provided with a megaphone. Actually at fifty yards' range it was impossible to hear a word or to know which machine was being sold. Naturally, tills made a hot and tired crowd very restive, and for the first half-hour of the afternoon it looked as though trouble was brewing. Derisive cat calls, whistles, and shouts of 'Fetch a megaphone!' 'Will the auctioneer speak up?' and 'What number are you selling?' completely drowned speech even at shorter range, while the people on the fringes of the crowd pushed and struggled to the discomfort of all."



"After many months and after frequent urging by *The Motor Cycle*, the Government has at last made a start to dispose of the 'unused' surplus army motor cycles. The crates shown contain 2¾hp Douglases which were sold for figures around 74 guineas."

"THE FEDERATION OF MOTOR CYCLISTS, the body which controlled the sporting side of motor cycling in America, has died of dry rot after a spectacular career of sixteen seasons. In its place USA riders have the Competition Committee of the Motor and Allied Trades' Association. The new body will regulate competition of all sorts in motor cycling, but will not attempt to knit the riders together for social intercourse or to combat adverse legislation. The MATA has ruled that all eight valve and ported motors are barred from mile tracks; that a stock machine is one that may have anything done in the way of tuning, but changing bore, stroke, or compression ratio is barred; that an endurance run is 250 miles long, and that there are no longer amateur and professional riders. American motor cvclists are now novices or experts, with the single exception of

a track professional. Once a motor cyclist has ridden for a cash prize he becomes automatically a professional. A novice is a trade or private owner who has never won a leading prize in a motor cycle competition. Riders are classed according to ability and not according to their trade or profession. Thus, a sporting dealer is not made a professional when he competes for the sheer love of the sport. Road records are officially taboo."

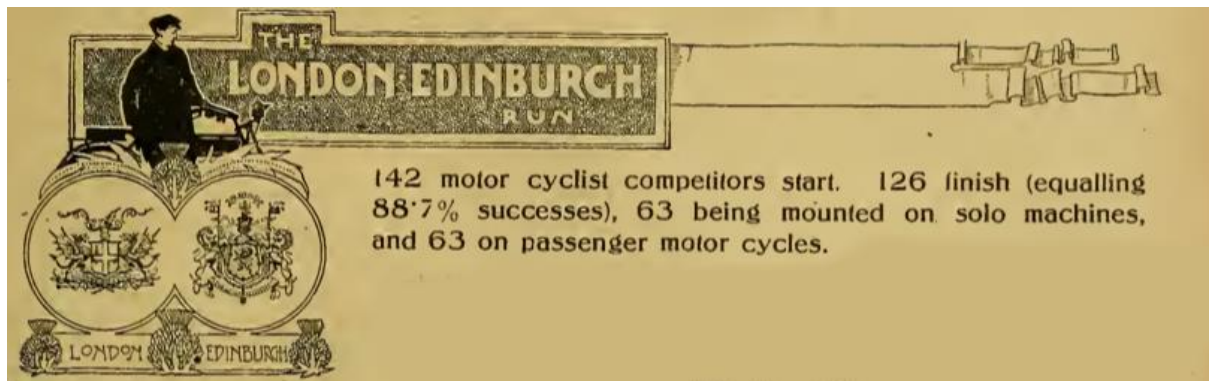


"Since the removal of petrol restrictions motor cycling has again become very popular in the navy. In a large ship the machine can be kept on board, and even ridden round the quarter-deck for testing purposes. This photograph of a Douglas owner was taken aboard *HMS Barham*."

"A READER ADVISES US THAT on the Manchester-Chester road the police recently used a Ford car to chase a motor cyclist, whom they considered was exceeding the speed limit. We wonder whether the Ford won the race, and, if so, whether the policemen were not liable to be prosecuted for exceeding the speed of their victim."

"IT IS AN ALMOST INCREDIBLE FACT," Ixion remarked, "that the average motor cycle manufacturer arranges no organised local 'service' for his customers in England. Until quite recently you could break an exhaust valve of any leading British engine without feeling at all certain that a spare would be obtainable in the next big town. The firm would have an agency in that town, but an 'agency' by no means implied a representative stock of spares, *nor does it at this day*...Such business methods are

atrocious in the twentieth century. Manufacturers should make it part of their agreement with their 'agents' that they maintain a stock of at least one of everything likely to go wrong."



THE MCC STAGED THE LONDON-EDINBURGH RUN annually from 1904-1914. "Now, after five weary years, this classic event will take place once more, and at 9pm on June 6th 176 competitors will start at half-minute intervals from Ye Olde Gatehouse Hotel, Highgate for their four hundred miles trip northwards. Mr HJC Spring, proprietor of the Gatehouse, has undertaken to provide supper for competitors from 6.50 to 8.45 on the evening of the start. He is also prepared to fill vacuum flasks with hot coffee and to provide sandwiches to take away...This year there will be coffee and sandwiches at Biggleswade, the first stop, which are excellent foundations for the dreary drive through the hours of darkness: and the same fare will be on hand at the garage at Grantham...No fewer than forty makes will be represented by the entrants, of which the Douglas leads with eighteen competitors. The following shows the number of machines of different makes: ABC, 3; Allon, 4; AJS, 8; Ariel, 4; BSA, 4; BAT, 1; Blackburne, 4; Brough, 1; Clyno, 4; Coulson, 3; Chater-Lea, 2; Douglas, 18; Diamond, 1; Enfield, 5; Harley-Davidson, 6; Henderson, 1; Hobart, 1; Humber, 4; Indian, 3; James, 4; Lea-Francis, 2; Levis, 2; Mabon, 1; Matchless, 6; Morgan, 5; Metro-Tyler, 2; Motosacoche, 1; Norton, 7; Omega, 1; P&M, 3; Rover, 1; Rex, 4; Rudge, 2; Sirrah Verus, 1; Sunbeam, 12; Triumph, 8; Wooler, 3; Zenith, 8."



"The start—for the first time in daylight. Sec Lt Cooper (No 1), the organiser of the run, and Major LA Baddeley, awaiting the starter's signal. RC Davis (8hp spring-frame Chater-Lea sidecar), one of the first of the sidecars to start with lighted lamps."

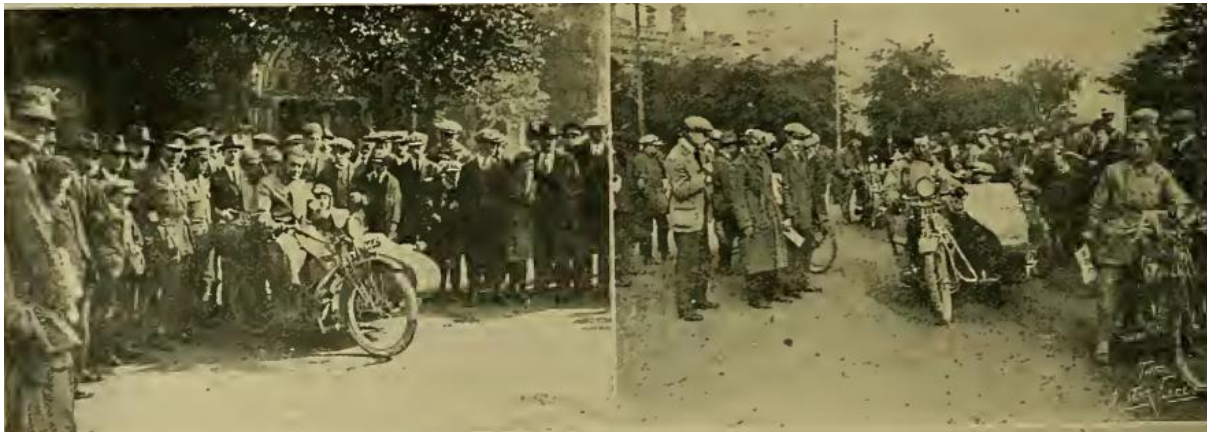
In the event 159 bikes left Highgate, cheered away by a record breaking crowd of up to 10,000. “Even the police were interested, and were seen studying the machines with The Motor Cycle as a guide...It was a happy reunion of many old friends, for the entrants had come from all quarters—including Ireland—to compete in the classic event. The Services were well represented...The Clynos now have red and black tanks, and look particularly smart...The new spring frame Matchless and Chater-Lea are a light buff. The latter machine employs a single leaf spring, which constitutes a very neat suspension...As the hour of nine approached, the crowd became denser, and when the first of the competitors—Sec Lt W Cooper (Douglas)—was sent away by Mr AV Ebbblewhite, there was only a narrow lane extending for half a mile between two deep rows of spectators. For the first time the trial started in daylight, thanks to summer time, but by the time the first of the sidecars started, it was time to light up, in which connection it was quite noticeable the number of machines which were equipped with electric light. Several of the machines were fitted with the latest Lucas combined lighting and ignition unit. We counted over twenty lady passengers.



“JD Campbell and his passenger, New Zealand motor cyclists, on an AJS. Scene at the start—the crowd was immense, and almost completely hid the new machines from view. Lt JAW Armstrong (3½hp Lea-Francis).”

“THE RUN DESCRIBED BY A COMPETITOR: Once more en route for Edinburgh after five years’ interval! There seemed to be the same bustle and the same familiar faces. But we missed that searchlight at the start, the darkness overhead, and the hundreds of lamps. Now we comfortably glide away in broad daylight, and the night journey somehow seems shorn of its terrors. Our immediate companions were old stagers, purposely placed in front to lead the way. W Cooper, the trials hon sec, was number one, and for half the journey escaped the dust, a 2¾h. Douglas carrying him on his important mission. LA Baddeley, also on a Douglas, one of the travelling marshals, was number two, and then followed Olsson (4hp Douglas). Our old friend AJ Sproston, now home from Egypt, and back in civilian life, was on a Lea-Francis, Moffat on one of the new 3½hp Douglases, AC Robbins on a new Wooler, Hemy on a Metro, and Scott on a 5-6hp James. It was a perfect evening. The vanguard stopped quite reluctantly outside Hatfield to light lamps. It seemed a shame not to go on until the last glimmer faded from the

summer sky. Here we met a small naval contingent, foregathered to cheer their shipmate, Lt Kidston, RN, who, after his ship was torpedoed early in the war, served in HMS Orion under the late Sir Robert Arbuthnot, who told him of the joys of the London-Edinburgh run. Near Welwyn we saw the first victim of the many tyre troubles...It had been very hot at the start, but, once started, it was comfortably cool; so much so that we feared that De Arango, the Brazilian naval lieutenant, who wore only a drill suit and no overalls, would feel chilled to the bone, but he appeared happy, nevertheless, on his Harley-Davidson...Some the competitors used wonderfully powerful head lights, causing a weird effect on those who were not so well equipped. We were using a quite effective and well-trusted small Lucas head light, but some of the electric projectors threw so brilliant a beam that the shadow of the rider ahead danced in front of him nearly all the time, thrown on the road, against the trees, or, worst of all, against a cloud of



“At every point the interest of the public in the new mounts was shown by the crowds around them. (Left) Emerson’s ABC sidecar. (Right) Hugh Gibson’s new Clyno is admired at York.”

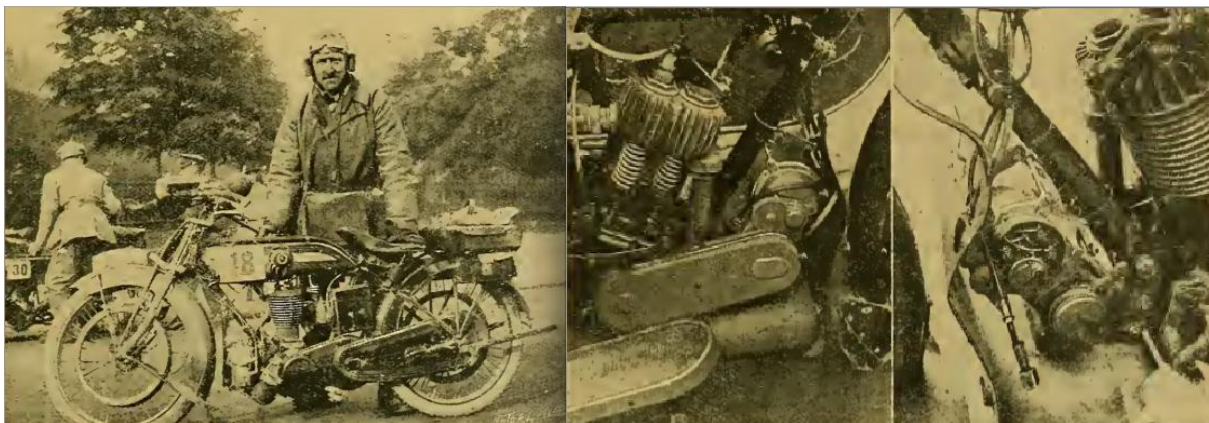
dust...On the way to Grantham we saw something of the Scootamota, which was being ridden by a non-competitor. To this point it travelled well, but having lost the silencer, blue flame shot out behind. This was the first Edinburgh run in which tail lamps were compulsory, and the effect of the long string of these during the night was very strange, but not all of them, unfortunately, kept alight. It had been a wonderfully fine night run, and an equally fine day followed...The most interesting part of the morning journey was from Scotch Corner to Penrith, through glorious country under an Italian sky, but, unfortunately, the dust! Several competitors continually rode in inseparable groups. DS Baddeley (P&M) had contact breaker trouble near Brough, whilst Douglass (Harley-Davidson sc) was in collision and buckled both wheels and retired. W Cooper (Douglas), who had had electrical trouble, passed at a rare ‘bat’ near Penrith, his troubles over for the day. Luigi (BSA) had punctures in this section. News also reached us that the fine old sportsman Dover (Douglas sc) had to withdraw owing to eye trouble due to defective goggles. After luncheon at Carlisle the sky became overcast, and a

violent south-west gale sprang up...Hawick, the next and last check before Edinburgh, was enjoying a



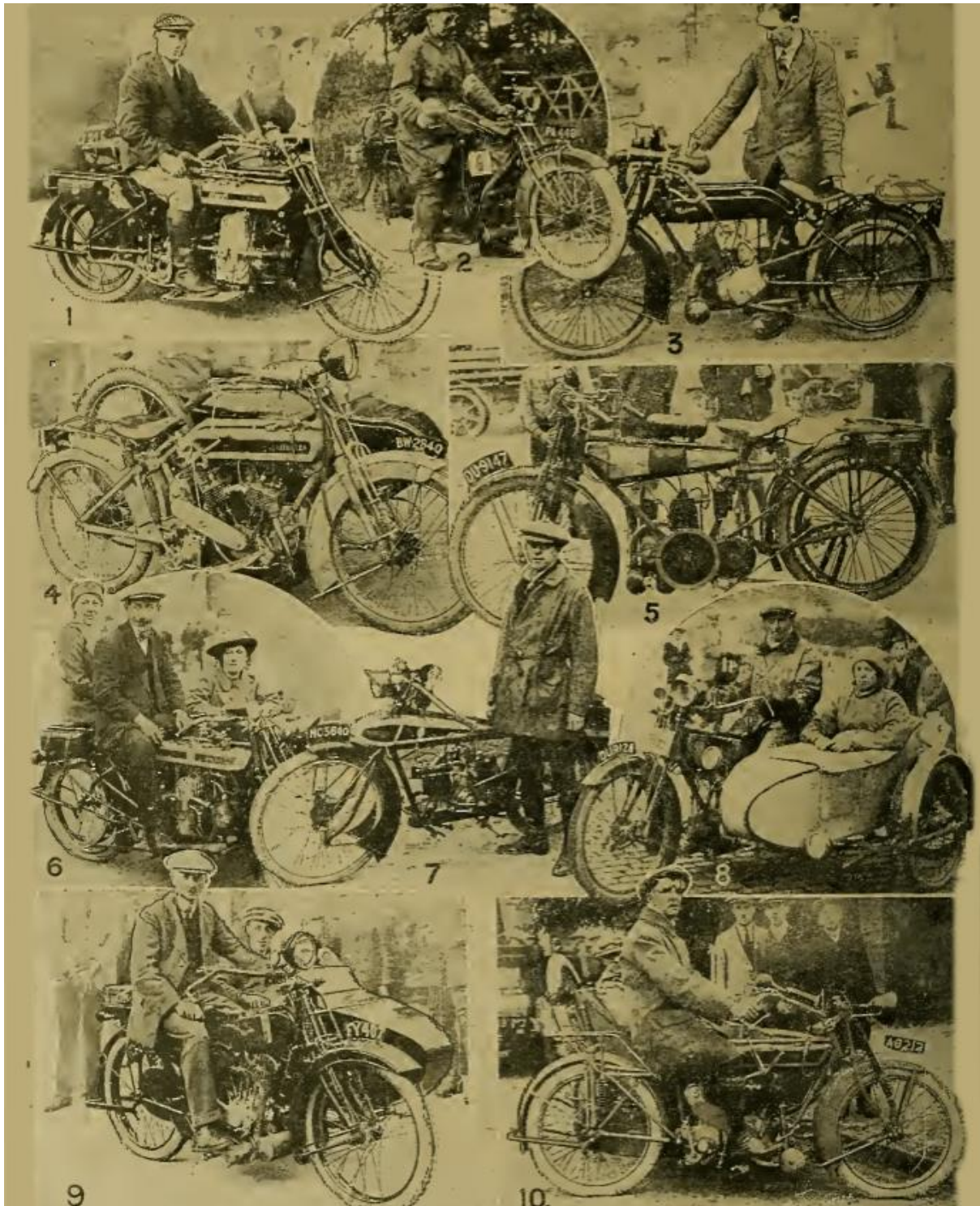
“Nearing the finish—competitors going well after eighteen hours riding. At the York check, which was in the hands of the Rev HTS Gedge, who is shown taking the times of KV Chidley (flat twin Wooler) and GF Ammon (2¾ Metro-Tyler). Competitors being checked at York. The makes of machines shown are, reading from left Matchless, Zenith, Triumph, and Sirrah Verus.”

holiday, and the streets were thronged with people. Later in the afternoon rain fell heavily, and the journey, almost to the finish, was by no means comfortable. Happily it was fine again before Liberton was reached, and, except for this final downpour, the weather had been glorious. Naturally, the number of successes was considerable. But ill-fortune overtook a number among these, other than those previously mentioned, being Frank Smith, who, owing to gear box trouble, retired at Doncaster. Another of the new models which failed to finish was the flat twin Wooler (ridden by AC Bobbins) which developed engine trouble near York. The sister machine (ridden by Chidley) finished successfully. Nias (Rudge) was reported to have retired after an accident, while Harrison (Norton) had his magneto break down before reaching Grantham. Clease (Norton sc) suffered with tank trouble early in the run, and failed to finish.” Gold medals were earned by 115 riders with four silver and a single bronze; one was ‘held over’ and 14 failed to finish.”



“HR Lane, a competitor in the London-Edinburgh run, with his 4½hp BSA, fitted with the new Lucas Magdyno. The new Lucas Magdyno ignition and lighting unit on an AJS machine.”

NOTES ON THE TRIAL: Altogether the run was one of the most successful the Club has ever held, and the organisers deserve the greatest credit...George Wray rode a 1909 Triumph he bought for £14, which he fitted with a gear of his own design...The inseparable Jacobs and Le Grand could not compete, as their new Rex mounts could not be completed in time...Mr Duncan-Watson thoughtfully presented each Harley-Davidson driver with a box of cigarettes and matches...Major Baddeley (Douglas) came through successfully on tyres six years old...Emerson's ABC outfit was only finished at the last moment. The engine had not even fired before ten o'clock on the morning of the trial...The 1919 model all-black AJS sidecars ran like clockwork throughout...Most of the non-starters were prevented from competing from the ail-too prevalent delay in delivery of new models...A press photographer on the London-Edinburgh run astride a 4hp Triumph carried his wife, two cameras, and a tent in which they camped out at Grantham. They completed the run...As an example of the silence of the modern twin, two competitors in the London-Edinburgh run, riding the new Clyno and AJS sidecar, carried on an easy conversation while maintaining an average speed of 20mph...The new Lucas Magdyno combined ignition and lighting unit made its debut on several machines in the London-Edinburgh run. The Magdyno which has been undergoing road tests during the past two years, is the first British made apparatus of this kind, and probably will be 'standard' on a large number of 1920 models which have been designed specially to accommodate it."



“Some of the new models in the London-Edinburgh run: (1) 5hp Brough. (2) 3hp ABC. (3) 2½hp Clyno. (4) The new spring frame 8hp Chater-Lea (5) A spring frame hghtweight-the Hobart. (6) A 3½hp spring frame Douglas. (7) The flat twin Wooler. (8) The new Model 77 Rex single. (9) One of the new 8hp Clynos. (10) An 8hp spring frame Matchless.”

THE DAY AFTER THE LONDON-EDINBURGH the Liverpool MC staged an open reliability trial in the Welsh Hills. To promote the iuse of home-produced fuel entry was restricted to bikes running on Benzole (yes, gentle reader, Britain used to make its own ‘motor

spirit' and it was cheaper than petrol. You'll have to ask the giant oil companies why we stopped). "The first trial to be run on benzole turned out to be a strenuous test for even modern machines, and of the thirty-four starters only ten qualified for first-class awards. The course was 134 miles, and included Cilcain Hill and Bwlch-y-Groes, which proved formidable for machines running on benzole where carburettors had not been retuned. This and the strong following wind caused many machines to overheat." The London-Edinburgh was a gruelling event; so was the 'benzole trial'. Hmmm...why not do both?

"A STRENUOUS WEEK-END: Three competitors in the London-Edinburgh Run went through the Liverpool MC Trial on Whit-Monday. These were Gordon Fletcher (4 Douglas sc), Rex Mundy (8 Matchless), and AG Cocks (2¾ Clyno). Fletcher carried his wife as a passenger, and when we saw the pair at the conclusion of their strenuous week-end, they appeared very little the worse for their several jights in the open. Fletcher's 'adventure' began by having to ride his Douglas from Bristol in the night three evenings before the start of the London-Edinburgh. The next evening he went to Eastbourne and back to fetch Mrs Fletcher, and the whole of the following night was used preparing for the event. The scooter which had created so much amusement at Highgate was seen en route on the running board of a Sunbeam car, to which it acted as a kind of tender. At Grantham, Mundy bought, for 1s 6d, some coupons which were supposed to admit him to the refreshment caterers. These, however, proved to be valueless, and the vendor had disappeared. Mundy carried the joke a point further by re-selling the tickets to a fellow competitor for 2s. Between York and Carlisle, eye troubles were fairly general, and Mundy was compelled to stop every few miles to bathe his eyes at wayside cottages. A Harley-Davidson was passed on the roadside, and it was evident, from its condition, that the driver had fallen asleep and driven into the ditch. Thompson (Douglas) rendered assistance, and carried the competitor's ACU 'get-you-home' coupon to Appleby, where he arranged for a lorry to fetch in the machine. At Edinburgh, Mundy's passenger preferred to camp out rather than to find accommodation at the hotels, and Mundy was not able to find him for the trip to Liverpool. Fletcher and Mundy, with their sidecars detached, caught the 4.55 train out of Edinburgh. Sunday travelling by train proved very trying, but after several changes they arrived at Warrington at eleven o'clock, where they were met by J Swinton, an energetic member of the Liverpool club, who, notwithstanding having to get back to Warrington and to start in the trial next morning from Queensferry, piloted them for ten miles or more on to the best road for Chester. Swinton also provided benzole, and for the wholehearted manner with which he rendered service was voted a 'good sport'. It was now raining hard, and arriving in Chester at 2.30am the party went to an hotel, where they were treated well, although no beds were available. It was too early for breakfast when they left for the start of the Liverpool trial, but this did not seem to disturb any of the enthusiasts, including Mrs Fletcher, who, by the way, is an old hand in competitions. Before her marriage she was

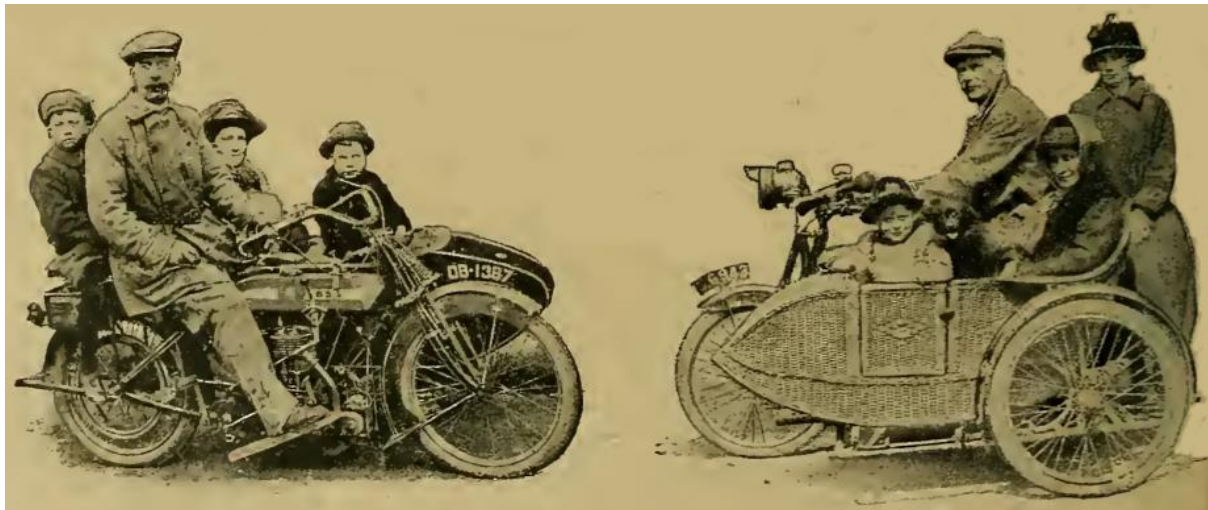
Miss Hamnett, by which name many of our older readers will recall her. The Matchless and Douglas were now taken through the Welsh trial, but owing to the use of benzole without retuning the carburetters the engines of all the machines in the trial showed signs of overheating. Tuesday was spent by Mundy on business for the ACU, of which he is the engineer and travelling representative, and a start was made for London in the evening. At four o'clock on Wednesday morning a puncture in Fletcher's rear wheel caused the party to stop, and, instead of mending it, the two men lay down on the roadside and journeyed to the land of dreams. At 6am Mrs Fletcher shamed them by waking them with the intimation that she had mended the puncture and arranged for breakfast at a cottage a little distance down the road. Then the final stage of the journey was completed—a mere 150 miles or so, making a total of 800 miles. A strenuous weeked indeed!" PS: Cocks won a third-class award having failed to climb Bwlch-y-Groes and Old Horseshoe Pass. Fletcher did not collect an award as he completed the course outside the time limit having also failed to climb Bwlch-y-Groes. Mundy, however, was one of the 10 riders to win a first-class award.



"Rex Mundy (8hp Matchless sidecar) and Mr and Mrs Gordon Fletcher (4.p Douglas sidecar), who competed in both the London-Edinburgh run and the Liverpool MC trial in North Wales—a strenuous weekend."

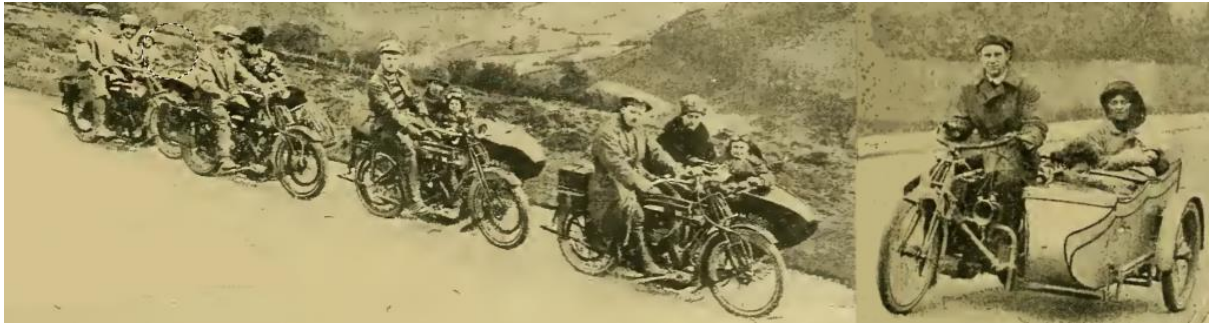
"THE OUTSTANDING FEATURE OF POST-WAR motoring, undoubtedly, is the large number of family sidecars to be seen on the road...apparently, every member of these parties is comfortable, despite the fact that imagination prompts one to believe only a jig-saw can rival the intricate manner in which lower limbs are interlaced...The rider of the old school fits as light a sidecar as he can obtain if he uses a '3½hp' for passenger work, and has an uncomfortable feeling most of the time that he is not giving the engine a chance. Such thoughts rarely trouble the family sidecarrist of today—and it is a tribute to the two or three-speed motor cycle that things do not happen to compel these owners to consider their engines a little more...Many of these family sidecars are owned

by newcomers to the motor cycle fraternity, who reap the benefit of the pioneer work done by *The Motor Cycle*, which, for six years, ploughed a lone furrow in motor cycle



“Happy owners who believe in sharing their motor cycling pleasures. Apparently only the accommodation of a five-seated car can excel that of a sidecar outfit!”

journalism and so prevented the threatened demise of the industry when motor cycles were unpopular and unreliable. To *The Motor Cycle* campaign and the ACC trials is due the change-speed gear as a general fitment on motor cycles, which makes them suitable for passenger work...today the average ‘3½hp’ will not only ‘take’ a sidecar, but the average family in addition—and do it well...No doubt sidecaring as a family pastime will do much to influence domestic happiness. It binds all—father, mother, and children—together with one common interest and prevents the disintegrated household one often finds, where each member of a family has to find his or her own amusement. A week-end on the road is a most valuable tonic to a tired woman, and breaks the deadly monotony of housekeeping that disgruntles many a worried wife and mother. The week-end on the sidecar with picnic baskets and children breaks up a long procession of 365 colourless days into five-day weeks of pleasant reminiscence and anticipation, each divided by full-of-incident journeys into country which otherwise they would rarely see. Apart from the health point of view, the education of the children is improved, and they are better able to absorb their school lessons because their wits are sharpened. In short, the sidecar is a real boon to the family man, and he is not slow to realise this. It behoves sidecar manufacturers to remember his special requirements when designing new models and to allow plenty of space and strength.”



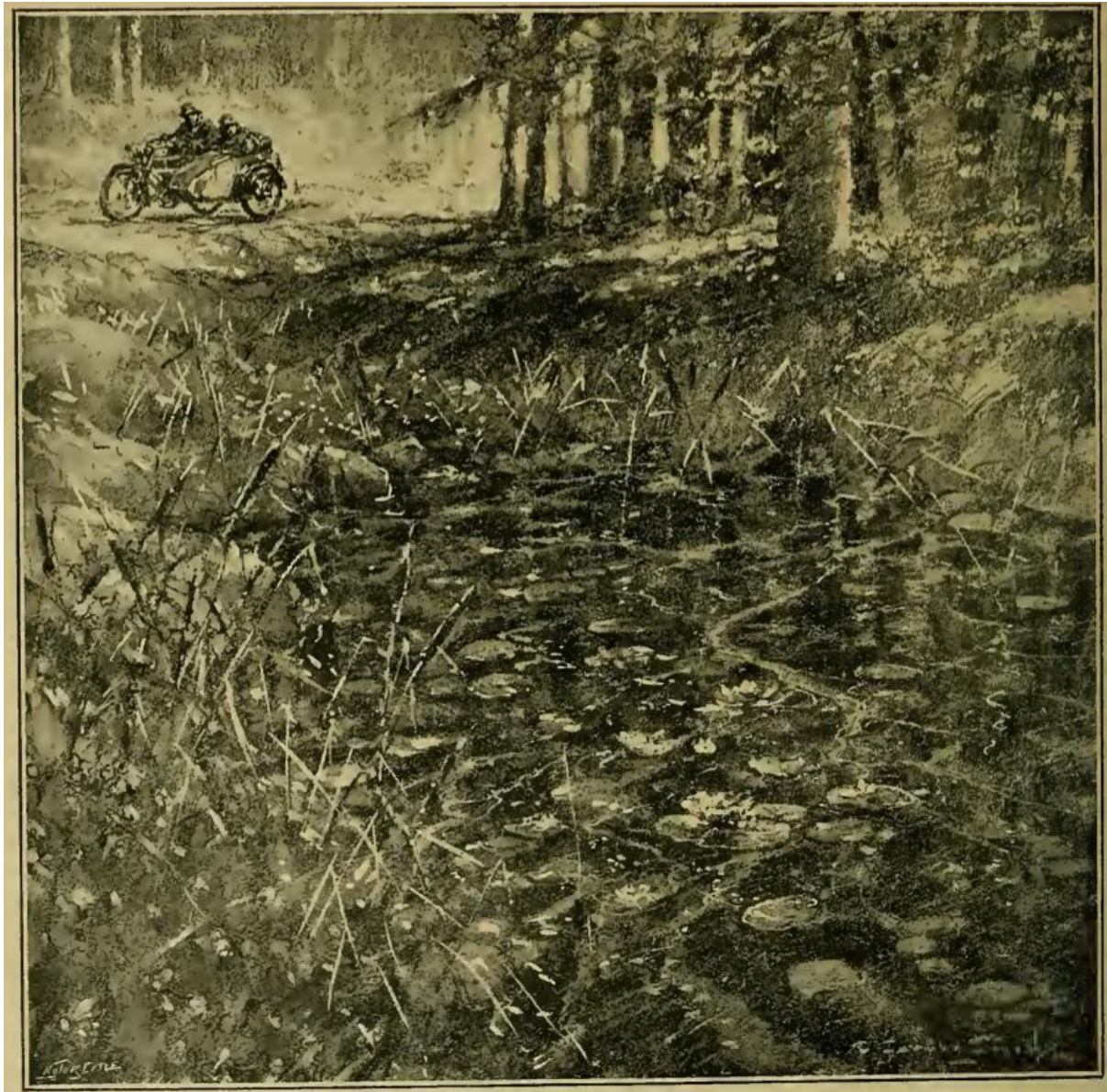
“Four BSA owners making the utmost use of their outfits. Eleven passengers were on this occasion easily conveyed on four outfits through the most beautiful scenery in Wales. Seating a child on a hassock in the toe of a sidecar relieves the passenger of much discomfort.”

Here are two smashing illustrations by the superlative F Gordon Crosby.



“Summer days amid the sand dunes. No summer would, of course, be complete

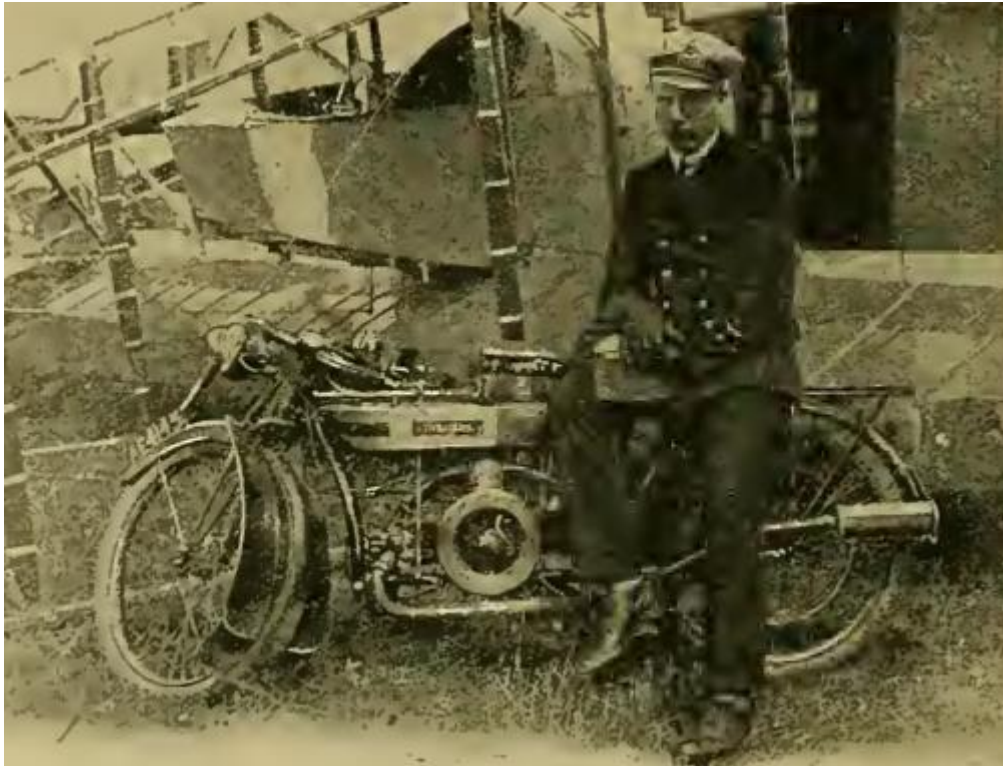
without a holiday by the sea, and no holiday complete without those delightful picnics with the 'old 'bus' to assist in finding the ideal spot."



"In the cool shade of the forest. Unsuspected beauty spots by the wayside are revealed to the explorer of by-ways such as that depicted—the sidecarists passing from the blazing light of the sun to the cool recesses bordering a wayside pool."

"THE TAIL LAMP FAMINE: For some mysterious reason," Ixion reported, "the scarcity of such commodities as whisky, beer, English beef, £50 1919 motor cycles, and dwelling-houses is a veritable superabundance as compared with the famine in motor cycle tail lamps. Some nimble-fingered gentleman of the road stole mine the other day, and I have tried all the leading London and provincial houses without meeting anything but derision from the salesmen. If they are truthful, there has not been a motor cycle tail lamp delivered since the Armistice. I have even endeavoured to buy one tenth-hand, proffering its weight in gold, but to no purpose. I have essayed to steal one, as people do

when their umbrella is taken ‘by mistake’, but tourists appear to detach these fittings, and, go to bed with them. I have a car tail lamp in my garage, so, gentle reader, if you meet a Baby Levis purring through the twilight with a 12in paraffin Dependence tail lamp secured on its carrier by eight yards of barbed wire, you will know that you have caught one fleeting glimpse of that elusive pseudonym ‘Ixion’. Have the Huns nefariously got their own back on us by cornering the world’s output?”



“Capt Sir John

Alcock, DSC (who, with Lt Sir A Whitten Brown as navigator) is the first and only airman to make a direct flight across the Atlantic. He is depicted above with his overhead valve racing Douglas.”

“A COUPLE OF BURNING QUESTIONS in the motor cycle world at the present time are ‘How to determine a winner in competition without resort to the objectionable secret check’, and ‘Motor scooters’—to stand or not to stand? The first query is an ancient one, the latter is of much more recent origin, and it was partly with the object of assisting in the solution of the questions that the idea of a road test by *The Motor Cycle* staff was conceived. Thus it was that the various members of the editorial, artists’, and photographic staffs converged on the Edge Hill range from London and Coventry last week on solo and passenger machines of all types and sizes. Three scooters—the Smith-Clarke, the Autoped (an American production), and the ABC Skootamota—were at the hill, two, shame to relate, conveyed thither in the tonneau of a car, but the ABC, with its sensible pan seat, was comfortably ridden from Banbury ready for the fray.



“The first scooter race. A highly amusing event. The fastest was estimated to do 15mph.”

Perhaps, naturally, the scooters formed the greatest novelty at first. Venturesome spirits disported themselves up and down, performed evolutions in the shape of circles as small as threepenny pieces and figure eights, as if practising for the blue riband of the skating world. Of course, the ladies of the party were immensely attracted by the ‘funny little’ motor bicycles, and a queue had to be formed to enable each one to take his or her turn on the ‘joy bicycles’. Stand up and sit down seats were provided, and each formed his own opinion of desirable features of the ideal scooter by the comparisons afforded. It was indeed an educational event, for, despite all the prominence given to scooters, one doubts if three had ever before run together at one time. But the Autoped had developed a fit of the sulks, and was grunting up and down the course very disconsolately, perspiring individuals on that gorgeous day chasing it down the roadway. Apparently, the twist grip on the joy stick stuck, and no amount of adjustment would persuade the combined throttle decompressor to continue to work; but a more ingeniously thought out machine one could hardly imagine. By pulling the joy stick towards the rider the free engine is operated, and further downward pressure applies the brake. Starting,



“(Left) A slow race for solo mounts, won on an Edmund spring frame machine fitted with the new ‘Union’ power unit. The Enfield took second place. (Right) The winner of the sidecar class in the stopping and re-starting test—an 8hp Victory Matchless.”

however, was not too easy, as the weight of the engine being so far forward, violent pushing to start resulted in the rear portion jumping up and kicking the rider on the calf. That vice did not deter the intrepid riders, for several fresh from the Army (there were six captains present) wore field boots! As a result the little American gracefully reposed most of the afternoon in the shade by the roadside, and it is now for sale at the bargain figure of £100! So novel had these scooters proved that many well stocked picnic baskets were neglected during the luncheon hour. Soon all present considered themselves sufficiently proficient to start in the great motor scooter race—the first of its kind—which was to follow. The scratch event was run off in pairs from the scratch mark, the winner of the heats appearing in the semi-final. During the heats each competitor judged his own speed (which formed one event of the afternoon), and an average was struck to determine the handicap for the semi-final and final events. A spin of a coin gave the choice of machines. The seven heats in the first round were all wins for Skootamota, partly on account of the fact that, with its saddle, it approximates to a motor cycle, and most of the competitors were more accustomed to this form of vehicle than the newer type with platform only. The races, however, were closely contested, and, once away, the Smith-Clarke showed a good turn of speed. In the second round, the Smith-Clarke was given 12yd start, in consideration of the tact that its engine was fifteen years old and scarcely a fair competitor for the latest Granville Bradshaw creation of the same capacity. The results in the three races in the second round gave two wins to the Smith-Clarke, and in the semi-final each won one race. Finally, the little Clement Garrard engine on the Smith-Clarke roared as it had never roared before, and got home a winner of the first scooter race by about 8yd. Later, however, the ABC production levelled up matters by climbing the 1 in 7 gradient of Edge Hill, piloted by an

eleven stone rider, which was a really remarkable performance for so small an engine with a single gear ratio. Slight assistance with one foot when in sight of the summit was all that was necessary. Incidentally this test was made to settle a wager between a scooter enthusiast and one of the staff who was sceptical. The next event was a single gear ascent of Edge Hill on a lightweight machine so adjusted that it could not possibly climb the hill—a simple test of driving skill. The winner, who had never previously



“Ladies rode the scooters without the slightest hesitation, and completely mastered the controls after a minute or two’s explanation. The seatless Smith-Clarke and the ABC ‘Skootamota’.

seen the machine, got half way up the gradient before he stopped. Here it may be interposed that no watches were used throughout the afternoon—*The Motor Cycle* staff have a natural objection to any trial decided by the watch, but prefer to concentrate on the survival of the fittest amongst the competitors. The complete regulations for the six events of the afternoon were, as a matter of fact, included on a postcard, which suggests that in many cases trials regulations are overdone. The event which followed the test of driving skill was the most strenuous of the afternoon. The regulations for the event were quite simple, viz, acceleration, braking, and clutch tests. Standing start; two stops and re-starts at points indicated. Class I, solo machines; Class II, passenger machines. It was a type of event calculated to weed out competitors who failed to handle their machines skilfully; whose brakes were bad; whose clutches were fierce or badly proportioned; whose gearchanges were difficult and awkward to operate, besides which a premium was placed on acceleration between the tapes. In the first heat a 4 standard Triumph sc competed against a 4 experimental chain driven Triumph sc. Both machines went up well, but the latter had a smoother clutch, and made the restarts without hesitation and won. A 5-6 Kover sc and a 4 Norton were matched for the second heat. Both were new machines in magnificent fettle. The Norton was away first, but the Rover got ahead before the first stopping point. The Norton rider, however, got away

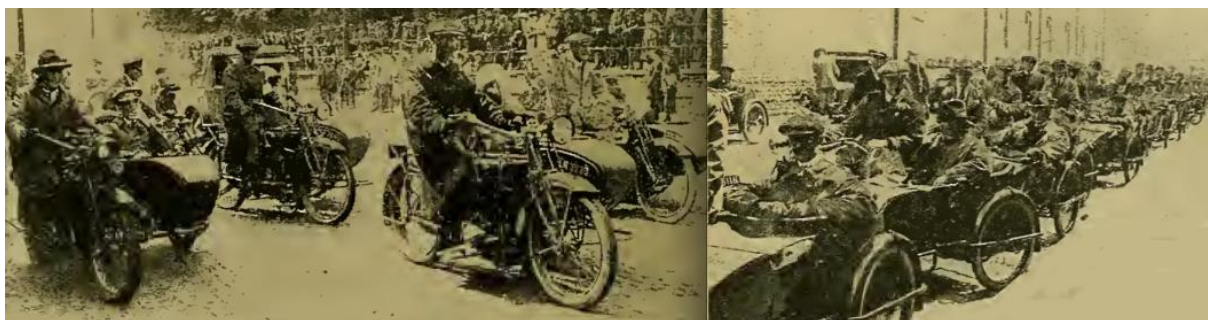
more smartly, and both roared up to the next stop. The twin, however, finally won the heat. An 8 Victory Matchless was drawn against the chain-driven Triumph in the semi-final. On the first section of the hill the 'single' held its own, but at the critical moment the terminal jumped off the plug, which left the JAP-engined Rover and Matchless sidecars to decide the final heat, and the 8hp mount won comfortably, though each machine restarted with ease on three occasions during the course of the climb. In the solo class a modern ABC first competed with a rider of a 2½ two-stroke Excelsior, and, naturally, won. The 3hp Enfield, though behind at the last stopping place overtook and passed the Lea-Francis near the summit. The ABC was then matched against a 'Union' engined Edmund, and won, but lost the event in a final trial with the Enfield fitted with an RCF carburettor, which, notwithstanding its age of five years, showed a fine turn of speed, and led all the way. The ABC clutch was slipping. Incidentally, a very favourable impression was obtained of the new Union power unit which the staff is testing at the present time. The new Norton and Rover, too, were exceptionally fast, and a little Excelsior demonstrated its power by climbing nine-tenths of Edge on standard top gear with an eleven stone rider. The final event, a slow 'race', for solo machines, was won by the rider of the Union-Edmund, who travelled so slowly that he had difficulty in balancing the machine. The Enfield was second. A sporting afternoon's programme, attended by glorious weather, ended with those present being entertained to tea on the terrace at the Round Tower by the Editor."



"A new event with an old background. *The Motor Cycle* staff of writers, artists, and photographers congregated at the Round Tower, Edge Hill."

“EX-MOTOR CYCLE DESPATCH RIDERS, who have served as such in any branch of the Services, are to be given first refusal of a large number of surplus Government motor cycles. The only condition attached to the offer is that the motor cycles shall not be re-sold within six months. The following machines are available immediately: Several hundred new Douglas motor cycles, in crates, at from £50 to £70; a large number of repaired Douglas motor cycles at £40 to £50; and a quantity of repairable machines at various prices. Application should be made in the first instance to the Secretary, Auto-Cycle Union, 83, Pall Mall, London, SW1, stating name of unit in which applicant served, and date of discharge.”

“IF JUSTIFICATION WERE NEEDED for the new policy of the ACU in holding its meetings at different centres, the success of the Bristol meeting provides it. At no time has the Auto Cycle Union had such a well attended committee meeting—nor such a representative one...members of the committee journeyed from as far North as Sunderland, and from Loudon, Liverpool, Manchester, Birmingham, Coventry, and other centres in order to represent their ‘constituents’ at the motor cyclists’ parliament. The committee meeting was held in Camera, but it was obvious to the most casual observer that a new enthusiasm animated the ACU committeemen who invaded the Grand Hotel. As frequently pointed out in The Motor Cycle, provincial motor cyclists before the war regarded the ACU as a London organisation run by



“The interest of the public in motor cycles was exemplified at Bristol last Saturday, when the ACU committee was entertained by the West of England club.” (Right) “The ACU committee in a convoy of Douglas sidecars.”

Londoners for Londoners. This feeling has changed. The ACU is now regarded as a national institution, and in truth becomes the motor cyclists’ parliament, representing 32,000 riders who support it, and considerably over a further hundred thousand who do not. Large as is the present number of members, half of whom have joined this year, it should be larger, and without doubt such events as that which we attended last week at Bristol will go a long way toward securing the support of those who at present allow others to fight their battles for them. Bristol has always been a hospitable city. The committee of the ACU knew this before their visit, but it is doubtful whether any one of the visitors expected quite such a hearty welcome as that arranged for them by the Bristol Motor Cycle Club. At nine o’clock on Saturday morning over forty Douglas

sidecar outfits were lined up before the hotel entrance. Each was numbered, and delegates and pressmen were allocated machines, which they were to regard as their vehicles for the day. These machines were driven by members of the club, officials of the Douglas works, and Douglas testers, and were, with one exception, standard 4hp models. At 9.50am the long line of machines moved off in single file, and threaded its way through the traffic of the narrow crowded streets of the city to the Douglas works at Kingswood. Here they were met by the principal of the famous Bristol firm, who, to emphasise the hospitality of his city, threw open the works for inspection. There was more than hospitality in this share of the city's welcome to the visitors. Among the delegates were the heads and designers of several contemporary firms, and this broad-minded action on the part of Messrs Douglas Motors set a precedent of what, in future years, may become general practice. It was exceedingly pleasing to us to see this whole-hearted invitation to all interested in the development of the motor cycle, for such visits must ultimately be of great benefit to all concerned in the production of motor cycles in particular, and to the field of British



“Four companies of the 1st Motor Battalion, Machine Gun Corps, at attention in the Bristol Rally.”

engineering generally. The visitors were piloted through the works in parties by the works manager, and were shown Douglas motor cycles in every stage of construction. The works have been greatly extended during the war, and equipped with magnificent plant...The afternoon part of the programme commenced with a return in the Douglas sidecar convoy to the city, where, at College Green, the visitors were met by the local motor cyclists. Before the cathedral four companies of the Motor Machine Gun Corps stood at attention. This company, commanded by Maj B Arthur, DSO, consisted of eight Clyno sidecar gun carriages, mounted with Vickers machine guns, eight spare carriages, eight ammunition carriages, four section officers, and four scouts mounted on 1916 4hp Triumphs. The Bristol club officials now led the way to Clifton Downs, and the long line of motor cycles with the machine guns practically encircled the Downs, where they exemplified the utility of the motor cycle in peace and war...after a short stay the visitors proceeded across Clifton Suspension Bridge to the beautiful Ashton Court Park for the gymkhana. Here several hundred other motor cyclists welcomed the party, and the

sports commenced. The events included a slow race, tilting the ring, musical chairs, long jump, and obstacle race, after which the Motor Machine Guns gave an interesting display...the Bristol MCC are to be congratulated upon the splendid organisation which permitted them so thoroughly to entertain the ACU.” *The Motor Cycle* had famously recruited some 11,000 of its readers during the war; it was clearly happy to keep waving the flag during the peace: “It was quite a happy thought on the part of the individual who invited the Motor Machine Gun Batteries to participate in the Bristol rally. The four companies...created a very favourable impression, and we were struck by the very apparent enthusiasm of the men. During the gymkhana...some of the officers and men competed in most of the events, and the camaraderie which existed between officers and men was clearly apparent. In the procession, and later in the gymkhana events, great skill was displayed by the drivers, Lt Bradshaw in particular shining when it came to ‘stunt’ performances. We understand that this unit has authority, and is prepared, to accept suitable motor cyclist recruits. The corps is recommended to any motor cyclist or would-be—motor cyclist who is at a ‘loose end’ and who would appreciate membership of what is, to all intents and purposes, an up-to-date motor cycle club, with all found and no subscriptions to pay. Major Arthur informed us that there is a certain amount of light duty, but plenty of leave and liberal pay, a most excellent combination of duty, business, and pleasure.”



“The Gymkhana. (Left) A competitor in the ‘long jump’ competition [which was won by Lt Bradshaw on his 4hp Triumph, who was airborne for 27ft]. Right: Tilting the ring.”

“A SIDECARIST GARAGED HIS MACHINE for three days at Bournemouth. After leaving, he found a pair of driving gloves in the sidecar. He reported the find to the garage without result. Will the owner communicate with us?”

“THE FOLLOWING IS THE NUMBER of motor cycles purchased by the Government from the beginning of the war up to September the beginning of the war up to September 30th, 1918: Triumph, 6,290; Douglas, 6,998; Clyno, 191; Enfield, 14; Rudge, 141; Zenith, 220. Sedecar outfits: Douglas, 1,180; Clyno, 733; BSA, 546. These figures do not include the P&Ms of the Flying Corps.”

“THOUGH stated not to be a freak course, the route chosen by the Edinburgh MCC for its recent trial was particularly severe. The course consisted of close upon ninety miles over mountainous country creating at first a happy impression, which rapidly receded as the day advanced. The last sixty miles left an impression of watersplashes, hairpin bends, steep gradients, loose sandy surfaces, gates, rocks, and countless observers. There were seven observed hills, and each one took its toll, so that when once the wild country was struck the weeding out process proceeded very rapidly. The entries included many novices—one lady rider of a 3hp Enfield and several school boys who certainly made up in keenness what they lacked in experience...After tea the process of elimination proceeded very rapidly. Continuing to Donnally Buru we found Arkman Smith (3¾hp Scott) emerging from a collision with one of the sidecars. His frame was badly twisted and his low gear rendered inoperative, which was hard lines, since he had ridden well; but he pluckily finished the event...Reservoir Hill and Slade Hill were more by way of being driving tests than anything, both containing hidden hairpins on their steepest and



“Edinburgh MCC open trial. Despatching competitors after tea from the check on Snout Hill.”

loosest portions, and the last named accounted for no fewer than sixteen failures among the few survivors! We noticed one Harley-Davidson travelling at speed with a broken sidecar coupling, while another, in the midst of a fine ascent, suddenly stopped down with gearbox trouble—apparently seizure. Several riders crashed on one or the other of these hills and so spoilt their sheets...the following competitors got through without loss of marks—truly a worthy performance: Jas Beck (3½ Sunbeam sc); CS Burnley (4 Blackburn); WB Fenwick (6 Rover sc); WS Miller (3½ P&M); JR Alexander (6 Enfield sc); AB Bruce (6 AJS sc); AH Alexander (3½ Douglas); J Armstrong (8 Enfield sc); Duncan Bell (6 AJS sc); JW Anderson (8 Bat sc); Frank Smith, (8 Clyno sc). It will be observed that only three solo riders out of thirty and eight sidecars out of thirty-one are mentioned. All the survivors surmounted very great difficulties, but Beck (3½ Sunbeam sc) and Burnley (4 Blackburne) undoubtedly put up the surprise performances of the day. They held Nos 1 and 2, and kept together dead on time throughout the event. The

organisation of the event was excellent throughout, and Messrs Macrae and Hutchinson, with whom the responsibility mainly rests, are to be congratulated on the results. The weather was perfect, and the whole event proved most enjoyable and interesting.” The Edinburgh club also announced a race meeting at Lanark Racecourse and, as a sign of the times, the classes were defined by cubic capacity rather than horsepower. Five-mile ‘scratch races’ were to be run for solos up to 400cc, 600cc and 1,000cc, and for solos up to 1,000cc.



The Blue ‘Un set out to find England’s oldest motor cyclist. These veterans had a total age of 220. From the left: R Wolstenholme (77), FG Hillyer (68) and Jas Scott (75).

Wolstenholme said: “I enjoy a good spin as well as a lad of twenty. I attribute my good health a long life largely to the use I have made of the cycle as a means of going about the country and getting out into the fresh air.”

“NOW THAT PROVISION IS BEING MADE for the inclusion of motor scooters in competitions, the need for some official definition which would clearly show the line of demarcation between the scooter and the miniature motor cycle becomes apparent. We contend that the question of accommodation is the easiest and truest point to be considered in this direction. The term ‘scooter’ was applied to the pre-war platform machines by *The Motor Cycle*, because they resembled the pavement toy so popular with the younger generation. A scooter, however small, can no longer be regarded as such if it is provided with a seat. Obviously it is an open-frame miniature motor bicycle; therefore, we think, when the governing body sit to define the scooter, as soon it must, a suitable definition may be arrived at which will meet the views of the majority.” *[We can only wonder how the Blue ‘Un scribes would have reacted to 21st century scooters with 850cc, 75hp engines, 16in wheels and 120mph performance.]*

“ALTHOUGH IT IS TRUE THAT LIGHTWEIGHT motorcycles have received a certain amount of encouragement in the trials of the past, we think that rather more might be done to aid the development of these little machines and make them more suitable for serious touring. We are not thinking of machines having engines with a capacity in the neighbourhood of 300cc and more: these have long since proved their capabilities for practically any service which, may be demanded of them. Rather we have in mind the really small and light machine with an engine capacity of not more than 225cc and

weighing about 100lb...motor cycles of this type are often bought simply as runabouts for use on short journeys only, but, though they are not to be compared with heavier and more powerful mounts in the matters of comfort and speed on long journeys, they are really capable of much more than this.”

“THE 1920 CLYNO ON THE ROAD: The new 8hp Clyno’s V twin engine is 76x102mm, giving 925cc; the transmission is by totally enclosed chain through a specially designed three-speed countershaft gear to a sprung rear wheel; the sidecar wheel is also sprung. Our journey started from the works at Wolverhampton, and the first fifteen miles were a horrible dream, as regards road surface ; if anything worse exists than this road through Walsall to the suburbs of Birmingham, then a tank is the only suitable vehicle to traverse it. Had there been any defects in the springing system this section would have shown them up, without doubt, but...not one really bad jolt was experienced by passenger or rider...The run was continued via Dunchurch and Dunstable to London, thence up the North Road to the neighbourhood of York; here we turned south through Derby to Wolverhampton again—a rund trip of nearly 400 miles. Hills are unimportant on the earlier part of this route, and the machine simply hummed along at an even ‘bat’ somewhere around 30mph in the smoothest possible manner; it appeared possible to continue indefinitely. Both the sidecar passenger and the driver had

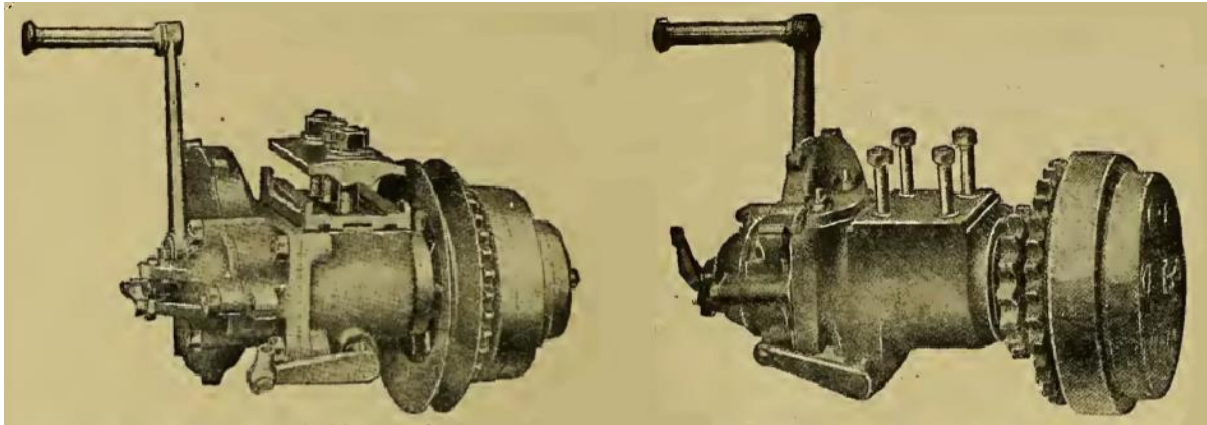


“Mr Frank Smith, with *The Motor Cycle* representative, aboard one of the new 8hp Clyno outfits.”

in Army parlance, a decidedly ‘cushy’ job. The springing system, coupled with the unusually roomy sidecar, gave comfort, the like of which used to be found only on a good car; it was quite possible to write fairly legibly, and later, during the run, which was continuous over some twenty-two hours, the passenger slept soundly for a time. The almost silent running will satisfy the most fastidious—it may be compared to the ticking

of a sewing machine. So pronounced is this point that, when the first change from low to top gear was made, we thought the engine had stopped accidentally. On the return journey one or two fairly steep hills were encountered in the neighbourhood of Nottingham; on one of these one might quite reasonably expect to change down to second gear with any modern touring outfit. The Clyno took it on top. and, more than that, it was slowed and accelerated again several times with perfect ease; the average speed on this hill, for a little over a quarter of a mile, was about 25mph. The throttle was never quite fully open, and the load was a good touring standard...More than a passing word in praise is due to the transmission; snatch is entirely absent, the clutch operating very smoothly. Lubrication occasioned no worries; there are two systems. One is a mechanically-driven pump, forcing oil through a sight feed, and the other is the ordinary plunger pump. They may be used together or apart. On a run of 400 miles one finds time to pick out faults if they exist, but our chief difficulty seems to be to describe impartially whilst keeping a curb on the superlatives. Without doubt we retain a definite impression of one of the best passenger mounts which will come before the public this year...when the fortunate purchasers of the new model take delivery they will, we feel, agree with our restrained eulogy."

"REALLY SUBSTANTIAL GEAR ASSEMBLIES are few and far between at the present time, so that motor cycle manufacturers as a whole will welcome the appearance on the open market of the Burman gear units, made by Messrs Burman and Son, Ltd, Ryland Road, Birmingham. These are by no means new propositions. Before the war the small gear box was very popular with several makers of light-weight motor cycles, and during hostilities the larger one has been supplied in considerable quantities to the makers of the 8hp New Imperial, on which machine it has given every satisfaction. Unfortunately, at present, the output is some- what restricted, and Messrs Burman are not able to cope with the existing orders, a state of affairs it is hoped will not obtain for long. The two principal models are a two-speed and clutch light-weight box with kick-starter, and a three-speed box with clutch, kick-starter and shock-absorber for machines of 4hp and over."

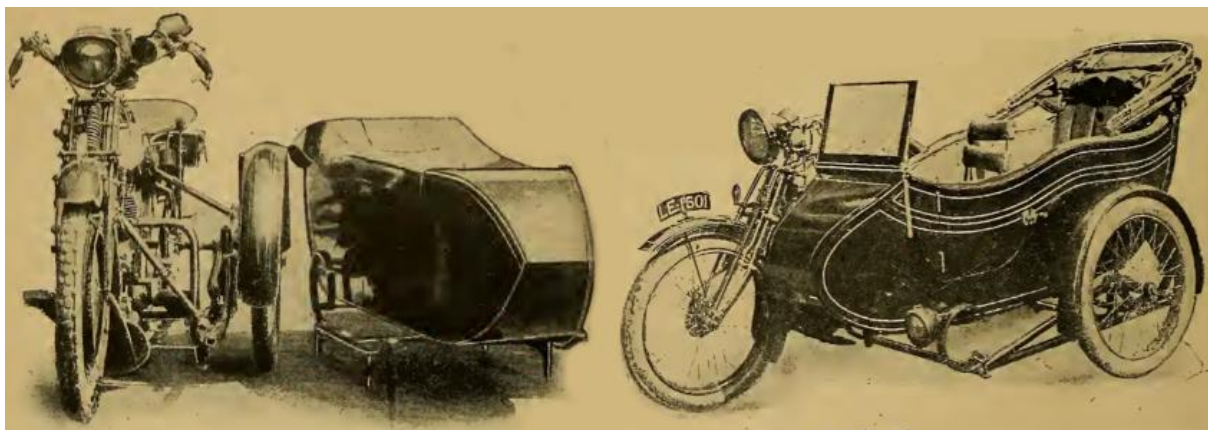


“Lightweight two-speed and clutch assembly for chain-cum-belt drive. Chain drive heavyweight three-speed model weighing only 30lb.”

“THOUGH WE DO NOT CONSIDER that taking of a passenger on a solo motor cycle carrier is either desirable or particularly safe, we cannot agree with the policy of several district councils in asking the Government to make carrier riding an offence under the Motor Car Acts. To render this method of taking a passenger illegal would be distinctly interfering with the liberty of the subject. A motor cycle is a private vehicle, and there is no law to compel a passenger to ride on the saddle only. He or she is equally well entitled to ride on the tank, top tube, or handle-bar. Carrier riding on a solo machine is not a particularly safe method of progression, since, with a passenger on the carrier, the steering of the machine is slightly affected, [but on] good roads, when reasonable care is exercised, the danger may be considered negligible.”

IXION HAD GOOD CAUSE TO REFLECT ON The Importance of Being Earnest: “The term ‘earnest’ as applied to a motor cyclist includes nightly attention to every bolt and nut on the machine, according to Cocker (ie *Motor Cycles and How to Manage Them*). I was never ‘earnest’ in this sense, being born with an irresponsible instinct for chancing tiresome details. So it fell on a day that the industry was almost relieved of the impertinences of this giddy scribe. What with being demobbed, and the sun shining, and having just got over being jilted by Araminta in favour of a bloated munitionier, I was driving a trifle bluer than my wont: in fact, I was indulging in what might be termed a spiritual TT and seeing how little time I could waste round corners. The particular corner which nearly created a vacancy for a man of push and go on the staff of this journal approximated in plan to the elevation of a church steeple, and was fortified by an extremely forbidding stone wall. I roared up to it at full revs, and at the fifty-ninth minute of the eleventh hour I shut my throttle lever and stood on my brake. The engine maintained fiill revs, and ate up the brake as if it had been tissue paper. With great presence of mind I lifted the exhaust valve lifter. The engine maintained full revs, very cheerily. By this time my front mudguard extension was within a few millimetres of the above-mentioned stone wall, and the pace was terrific. Another brain wave—I stood heavily on the clutch pedal, having no switch, and applied the front brake with vim and

vigour. The machine did a sort of shimmy-shake skid, and twisted itself round the corner fearsomely. I stopped the engine by turning off the petrol. Item: the throttle wire was looping the loop outside its casing, instead of going home to bed. Item: the exhaust valve lifter had shed two weeny screws into the road. Item: the clutch control depended on two microscopic nuts apparently intended to secure a sewing machine needle to its holder, and the sole survivor of the pair was hanging on the last whorl of its thread. I must have been born to be hanged. Draw the inevitable moral, gentle reader. Motor cyclists should be 'earnest' at all times, and inspect all nuts and control connections daily. It is even more important to be earnest when you receive your discharge and return home to bestride a neglected 'bus in somewhat light-hearted fashion. A tuft of grey now distinguishes my raven forelock."



Left: The folding sidecar chassis designed by one Fred Hopley of Birmingham must have appealed to enthusiasts with narrow passages. Hopley reckoned the sidecar body could be attached or detached in five seconds without recourse to tools; removing the sidecar allowed the chassis to be folded, reducing the overall width to just 28 inches. Right: Aeronautical and Motor Engineers Patley & Co of Westminster came up with a more substantial family sidecar with seating for an adult and two nippers. The children's seat could be folded out of the way to make lots of room for a single passenger; they were QD, leaving luggage room in the nose of the chair.

"THE ARBUTHNOT TROPHY, A STATUETTE of the late Rear Admiral Sir RK Arbuthnot, Bart, executed by Lady Scott, is put up for competition amongst naval officers by the Auto-Cycle Union as a memorial of his gallant death in the face of a vastly superior force of the enemy in HMS Defence during the early stages of the Jutland battle. The holding of this competition was first suggested by a member of the staff of *The Motor Cycle*. Of the competitors, Major WP Arbuthnot, RMLI, was a cousin of the late Sir Robert, and entered, so he told us, for the 'honour of the family'. Lieut Terence Back, RN, was nephew of the late Captain Back, RN, who perished in *HMS Natal* owing to an internal explosion with all on board. Sub-lieut CP Glen-Kidston, RN, served with Sir Robert in *HMS Orion*, as a midshipman...Starting early on a new make of two-stroke, complete with clutch and kick-starter, the 2¾hp Villiers-engined Ruffles, we made a

good run to Merrivale, where we stopped each competitor and gave him his instructions as to the consistent driving



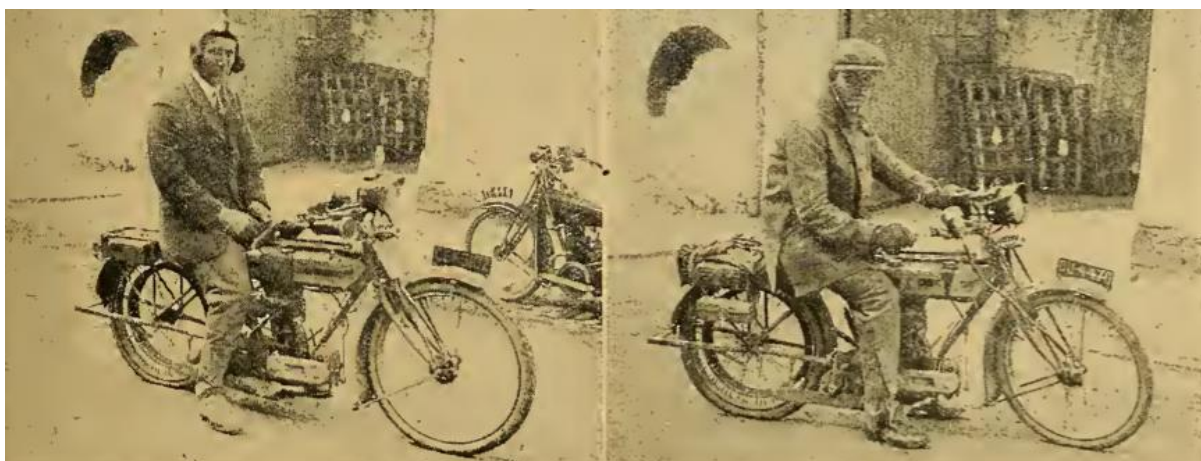
“Left: An involuntary stop on the maors near HoLne. Right: Sub-Lt GP Glen-Kidston (3½hp Sunbeam), snapped on a pretty section of the course between Two Bridges and Huccaby.”

test. Each man had, to descend from this point to Mr Loughborough, who sent him off when the road was clear...Lt Marriott (Norton) arrived with his face bespattered with oil, as he had forgotten to screw up the oil tank filler cap. Early among the competitors there arrived the Rev EP Greenhill in one of the 1920 Matchless sidecar outfits, with CE Cuffe (a pre-war trials competitor) as passenger. Mr AV Ebbelwhite, who was a passenger in Mr Loughborough's Morgan, took the times...Plenty of sheep and cattle were encountered on different parts of the course...a V bend followed by a pitch of 1 in 6 spoiled the hitherto clean sheets of several of the competitors. Near Bovey, Sub-Lt Pollock (Harley-Davidson) completely smashed up his mount on a downgrade through the brakes failing to act. Fortunately, he escaped without injury. This news was brought by Rex Mundy, who was driving a Matchless outfit, and was supervising the arrowing of the course. Onwards from Moretonhampstead to the luncheon stop at Exeter all was plain sailing. After lunch the road was rough and rutty, and there was an exceedingly tricky section between Tedburn St Mary and Moretonhampstead. This consisted of Brook Hill, which necessitated the negotiation of a watersplash, a long steep ascent from Clifford Bridge, and a precipitous and very tricky descent with very rough surface before the main road was reached...the road near Lee Moor Clay Works was distinctly greasy. Here Lt. Derek-Stephens (3½hp spring frame Douglas) had a bad side-



“Left: Sub-Lt RN Everett (4hp Triumph) in the consistent driving test on Dartmoor. Right: Lt W Derek-Stephens (2¾hp Douglas) and Sub-Lt CL Laurie (P&M) on a hill near Huccaby.”

slip, which was hard luck, as he damaged his footrest. This he was allowed to have made usable...The gem of the morning proved to be Deiiham Bridge, a steep hill with a fairly good surface and a gradient of about 1 in 4½. Most of the survivors made good ascents. Near Looe some steep hills had to be climbed; their surface was good, but on the summit of one there was a short patch of real grease, which fetched Laurie off his machine—his second fall that morning. After a splendid run from Bodmin we came upon the leaders, and were almost within hale of Merrivale, where the deciding test was to be held, when just on the moors our petrol supply gave out, but just afterwards a good Samaritan came along in a pony cart and asked our trouble. On hearing of our empty tank he volunteered to drive home and get the much-needed fuel, and in half an hour he returned mounted on the pony and with a two-gallon tin of benzole slung round his neck. We then set out for Plymouth through Horrabridge, and met the competitors again at Yelverton, whence they proceeded to the last check after a long down-hill run. So ended one of the best and most sporting trials ever organised, a trial which was highly appreciated by the competitors and organisers. The former, as one would anticipate, were the best sportsmen it was possible to find. Several were complete novices, and yet not one of them complained of the task set him—a task which was harder perhaps than was reasonable. Still, the survivors have the satisfaction of having come through a trial worthy of the most skilled experts. Results: 1. Lt ESK Evans-Greaves, RN (4 Triumph), winner of the Arbuthnot Trophy, silver medal, and special award offered by the MCC, no stops and fifth best performance in the consistent driving test. 2. Lt Terence Back, RN (4 Triumph), silver medal, no stops and seventh best performance in CDT. 3. Sub-Lt RN Everett, RN (4 Triumph), one stop and best performance in CDT.”



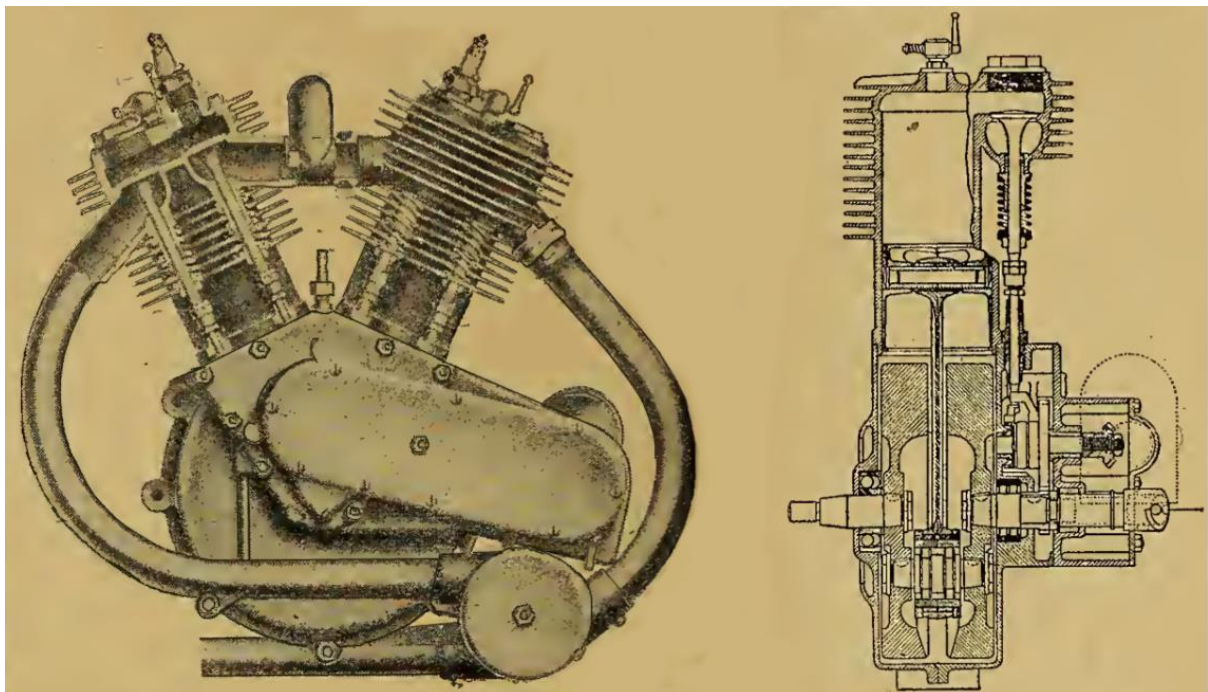
“First and second in the Arbuthnot Trophy Trial. (Left) Lt ESK Evans-Greaves (4hp Triumph), the winner of the trophy. (Right) Lt H Terence Back (4hpTriumph), who made the second best performance.”

‘WHIMSICAL’ DOESN’T BEGIN TO DESCRIBE Ixion’s review of the Arbuthnot Trophy Trial: “I do not doubt that the lieutenants who contested the Arbuthnot Trophy were up to all the wiles of Jerry, and could deduce volumes from the cock of a periscope. The trouble was that on the morning of the first day they failed to realise that Von Hipper and Von Scheer were babies compared to Secretary Loughborough, and that the modern reliability trial is founded on the strategic principles of Clausewitz. Thus, at the start, some of them complained bitterly that they were strictly limited to a schedule of 20mph maximum. They informed sundry armletted officials that in naval motor-cycling circles legal limit riding simply is not done. Mr Loughborough spread a pair of grimy and deprecating palms, and spoke vaguely of the law. Fuming but helpless, the ‘sporty boys’, as [comic actor] WH Berry would term them, fidgeted along at twenty for an hour and a half along main roads. By this time Loughborough had accomplished his fiendish purpose. He had hoodwinked the innocents into fancying that a reliability trial was a tea party. So he now proceeded to switch them down an innocuous-looking little turn near Huccaby, and for the next 150 minutes all the riders were risking their necks in order to keep inside maximum time; and maximum time spelt no higher average than a measly 18mph. Even at this some of them were slow in tumbling to the situation. After a prolonged spasm of goat tracks, cat-crawls, chicken ladders, moor gates, river beds, and greasy ailes beneath arching trees, they emerged into lanes—well, quite 8ft broad, with occasional straights of—well, quite sixty yards at a time. Quoth the greenhorns to themselves, the arch-devil who planned this sporting course must have just about exhausted his supply of freak hills; presently I shall emerge into lovely main roads, when I will blind some, and catch up the twenty minutes I have dropped on schedule time. But the relentless minutes passed, and still the arrows led on down twisty lanes, and around blind corners, obsessed with carts of hay and eke of timber, with army corps of frisky lambs, and giant stallions and nervous bullocks. Finally, real anxiety was begotten, caution was thrown to the winds, and alarmed competitors commenced the

usual ACU TT stunt, with frenzied accelerations down every trumpery straight of a hundred yards, and crashing on of brakes at the next corner. Then Secretary Loughborough produced the ace and king of trumps, in the form of tempting straights leading up to unostentatious arrows which hauled us back round V corners to face vertical ascents loosely covered with metal, road, assorted, unrolled, samples. By lunch time the entire entry had conceived profound suspicions of the man Loughborough. All of them knew what the seasoned competition rider learnt under the same astute tuition years ago. Which precious knowledge may be summed up somewhat as follows: 1. Do 30mph average while you can—roads are coming where no man may exceed 12mph and live. 2. Blessed is the man who can drop from 50mph to 3mph in eight yards. 3. A quick gear change, yea from top to bottom, secureth a gold medal—but he of clumsy hands must be content with a parchment certificate. 4. The valley roads are pleasant; but their sides are fringed with fearsome precipices; and thither the next arrow will assuredly point. 5. Good going never lasts in an ACU trial. 6. Despise not the short straight; along it thou canst save seconds which may hereafter be precious. 7. But bear in mind that the next corner turneth back upon itself; and around it lurketh danger.”

“A REPORT FROM WASHINGTON, USA, states that very few, if any, motor cycles will be sold by the US War Department at public sales.”

“THE FUEL DEPARTMENT OF THE AUTOMOBILE ASSOCIATION and Motor Union have issued a decidedly useful handbook, giving the names and addresses of 1,100 firms stocking benzole. It is classified in geographical sections to facilitate quick reference, and will be appreciated by touring motor cyclists who desire to encourage the production of home-produced fuel.”

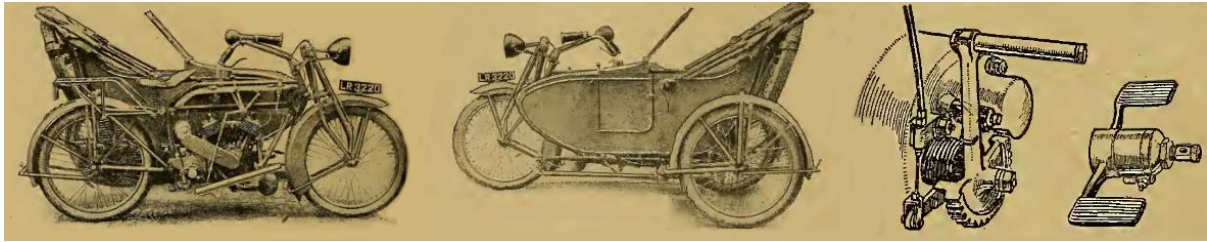


The Precision engine range was revamped for the post-war market with three new twins:

air-cooled 964 and 1,096cc and, for the cycle-car sector, water-cooled 1,096cc. The three twins differed only in size, cooling system and magneto drive; the twin cam wheels of previous designs were replaced by a single gear wheel. The Blue 'Un opined: "There is little of a startling nature in these new Precision engines, but, produced as they are by a firm of the widest experience, they impress us as being of sound commonsense design, and of such construction that there is every promise of great satisfaction on the part of the user."

"OUR LAST EXPERIENCE WITH A MATCHLESS sidecar outfit was in the spring of 1918, when a military model, of the type ordered by the Russian Government, was placed at our disposal by Messrs Collier and Sons, Ltd...The 1920 outfit is a very different proposition...it is a vastly superior affair. It possesses three very notable innovations—the spring frame, the kick starter-operated exhaust lift, and a single-lever carburetter, all very important features in motor cycle construction. It is the first motor cycle we have driven since 1903 which has not had an exhaust lifter on the handle-bar. The engine is controlled by the throttle spark alone, and the exhaust valves are raised for starting by means of a cam on the inner side of the kick starter quadrant, which, on the pedal being depressed, comes in contact with a trip on the exhaust lifter arm, which is hinged on a bolt at the base of the gear box. The valves remain raised during one-third of the quadrant's travel, the trip then slips off the cam, and the valves are dropped just at the correct moment. Also the engine may be stopped by depressing the pedal...The saddle tube is extended below the level of the bottom bracket and terminates in a lug from which runs a short stay to steady the forward chain case, while the other side of the lug serves to hold one of the six sidecar connections...the springing of the frame is particularly well carried out...the sprung portion forms practically a triangle and...includes the luggage carrier, while the unsprung portion forms practically a rectangle...Vertical coil springs take the road shocks between the sprung and unsprung portions of the frame. Every joint in the spring frame is provided with lubricators situated at convenient points, and the tubes are drilled to conduct the oil directly to the bearings. Control is carried out mainly by the throttle, which, with the front brake lever, are the only two on the handle-bar. The clutch is actuated by a rocking pedal, which is peculiar to Matchless motor cycles, while the excellent internal expanding brake is controlled by two pedals conveniently placed one on each of the two spacious and comfortable footboards. In our opinion, it would be very much better to separate these two pedals, and arrange for the nearside one to withdraw the clutch. The clutch is smooth in action and requires no effort, and, being indestructible, can be freely used...the sidecar wheel is also sprung; the wheel is carried on horizontal forks hinged at both ends...A Lucas combined magneto and dynamo is fitted, and we can say from experience that it works excellently in its dual capacity. We took the machine for its first drive in the dark, and the lamps gave a splendid light...On the whole we are

immensely pleased with' the latest Matchless production, which is the result of the labours of two practical motor cyclists."



"The spring frame Matchless fitted with 8hp JAP engine. The new Matchless sidecar is roomy. The kick-starter with automatic exhaust valve lifting mechanism. The clutch pedal."

"SCOTTISH SIX DAYS: THE ASCENT of Applecross is much better than in 1914, owing to the fact that the large tufts of grass, which so deadened the effect of the engine, have been removed. The competitors will encounter many stretches where the roads have been cut up by tractors hauling timber. These patches are almost impossible for the solo rider, and necessitate miles of low gear work, possibly with a toss or so into the ditch." (The Blue 'Un's report on the SSDT is in the Features section.)

"A HIGH AVERAGE SPEED: AN INSTANCE in which the speed and reliability of the motor cycle, in the hands of an expert, was employed in the service of the illustrated press is recorded in connection with the rapid publication of the Versailles Treaty photographs by a Scottish paper. The plates were brought from Paris to London by aeroplane, and then carried to Glasgow by AJ Sproston on a Lea-Francis. The journey was made with only two replenishment stops, and his average speed is reported to have exceeded 40mph".

TWO STORIES APPEARED ON THE SAME PAGE of *The Motor Cycle*, concerning the lads who came home from the war, and their comrades who didn't: "A meeting of prominent Midland motor cyclists was held last Friday evening in Birmingham to consider the question of organising some form of welcome home for the many motor cyclists who had joined the Forces...no doubt a successful event will be organised." "A memorial service in memory of those motor cyclists who gave their lives in the great war 1914-19 was held at St James's, Piccadilly, on Friday of last week...Among the congregation were numerous despatch riders in uniform."



“In America the sporting side of motor cycling is more frequently centred in track racing than in trials such as we hold. Pure speed work fascinates the Americans more than reliability, hence the numerous racing tracks in that country. The photograph gives a good impression of a sidecar race held recently in Wheeling, West Virginia.”

“THE HUMBER CO HELD THE FIRST of what may be many trials organised by large manufacturers to encourage their workmen to become motor cyclists and to foster goodwill between employer and employee. Such events should have far-reaching effects, for they bring the men, who actually make motor cycles, into direct touch with the conditions under which they are developed. We commend the excellent idea to other large employers of labour, and such events need not be confined to manufacturers of motor cycles.” More than 50 riders, many of them novices, tackled a 77-mile course that started at finished at Humber’s Coventry works. There were no ‘freak’ hills but the ‘stop and restart’ test on Edge Hill gave the newcomers a chance to test their mettle. While 37 competitors rode Humbers other marques were represented, including “a rejuvenated single-cylinder Rex looking very smart in its all-black finish and _gold lines, a 1919 3½hp Sunbeam, several Triumphs, countershaft, three-speed hub, and single gear models, and a 3hp Enfield. “Sir Arthur Whitten-Brown, one of the Atlantic flight heroes, was a guest; the tea stop was at Newnham, to which place the Humber band was sent in a lorry to render musical selections on the village green...As was to be expected, the majority of the competitors failed, through inexperience, in the stopping and restarting test on Edge Hill, but it was pleasing to see the sporting spirit prevailing among both officials and riders.”



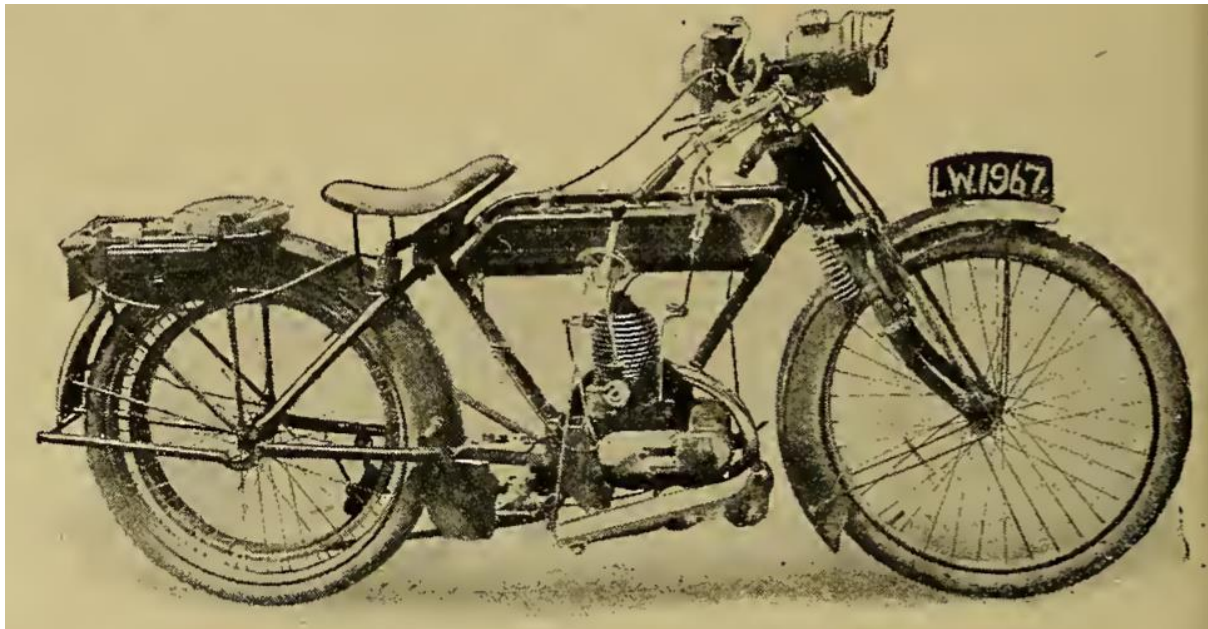
“The start of the Humber staff trial on Saturday last. (Right) F Yates (3½hp Humber sidecar) in the stopping and restarting test.”

“OUR experiences of the four-cylinder Henderson motor bicycle of the 1914 and 1915 models have been so delightful that it was with considerable pleasure that we heard that the first batch of 1919 models had arrived in this country...The Henderson stands almost alone; it is the first real novelty in motor cycle design which has come over from America. It is so fast that when the rider suddenly opens the throttle he has to grip the handle-bars tightly to stop himself from shooting off the back of the saddle, and yet it is so docile that it can be driven with comfort in the thickest London traffic. The new model is of extremely attractive design, being finished in khaki and having little plating work about it. As regards novel details mention must be made of the excellent spring forks, which are provided with a triple crown of immense strength. The Berling ignition system is quite separate from the dynamo lighting set...which generates from two to four amperes at 20 to 35mph...the storage battery is carried in a neat case under the saddle, which can be swung sideways to allow the engine to be removed from the frame without disturbing the electrical equipment or disconnecting the battery switches or wires. The battery is of the well-known Exide pattern. A genuine Klaxon horn and an ammeter complete the equipment. A much larger flywheel with a multiple-disc clutch built into it running in oil is now fitted, and the three-speed gear box is integral with the crank case. The change-speed gear is provided with an interlocking device, which prevents the lever from being moved until the clutch is disconnected—a very common practice on American motor cycles.”



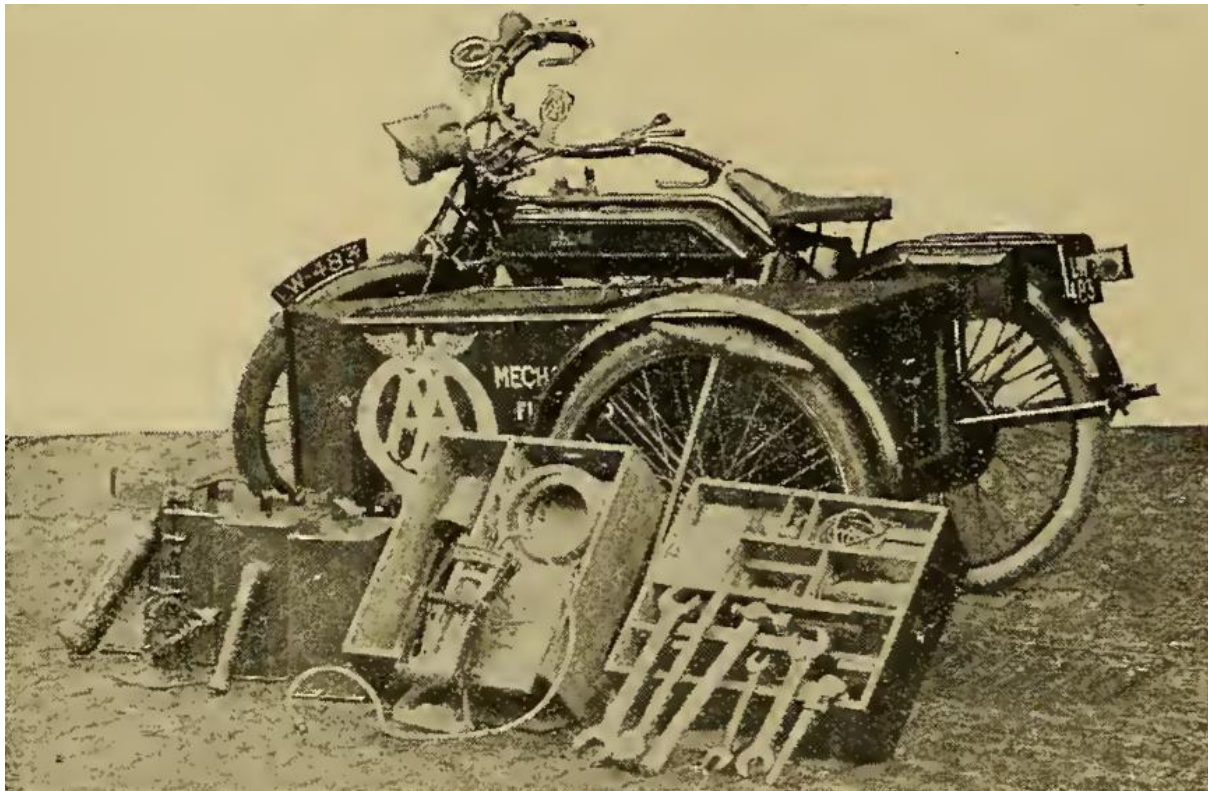
“The model Z2 electrically-equipped Henderson.” This centenarian example is still in action.

“A NEW MOTOR BICYCLE, UNKNOWN to the motor cycle public, came unexpectedly into our hands at Plymouth on the occasion of the Arbuthnot trophy. This is known as the Ruffells, and is sold by the Ruffells Imperial Bioscope Syndicate, Ltd, 8-9, Long Acre, WC2. It is fitted with a 2¾hp Villiers engine and a Burman two-speed gear box, incorporating a clutch and kick starter...We cannot speak too highly of the Burman two-speed gear and clutch, which took up the drive smoothly and effectively, and several times restarted the machine on the most appalling gradients. The little engine ran well, and the machine was quite comfortable. The chief criticisms we have to make refer to the smallness of the petrol tank, and the fact that the heel brake pedal is too near the clutch spindle. Otherwise the Ruffells pleased us extremely well, and satisfactorily accomplished the difficult task it was asked to perform.”



The Ruffells lightweight went straight from the factory to the Arbuthnot Trophy Trial and, once it had loosened up, performed well.

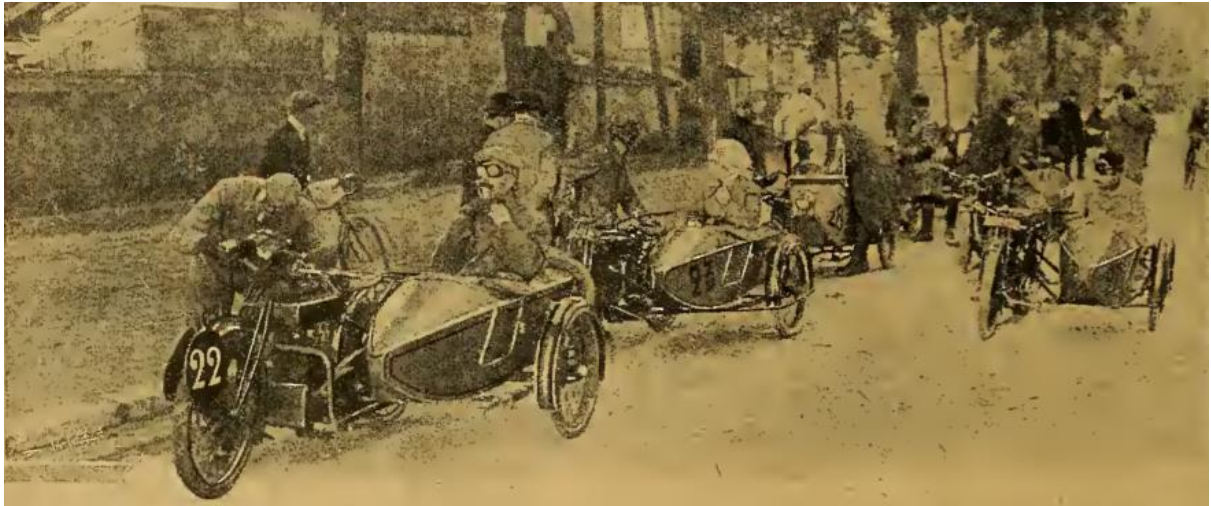
“the Automobile Association has initiated a unique service for motorists by equipping first aid sidecars which will assist members stranded with broken-down motor cars or motor cycles. These machines have been specially designed to carry a very complete equipment, enabling light repairs to be done ‘on the road’, thereby avoiding the inconvenience and delay involved in towage to garages for repairs or obtaining assistance from distant repairing establishments. In addition to tools, a large assortment of small but important accessories and supplies enable the drivers of these machines, all of whom are competent mechanics, to carry out tyre repairs and to make replacements of faulty connections, wires, etc, causing breakdowns. The services of these machines and their drivers are entirely free to members of the AA. The carrier is divided into two main compartments. The front portion carries the large items, such as petrol, benzole, oil, water, car jack, and the tyre inflator, all ingeniously clipped or strapped in place. At the rear are two drawers divided into small compartments of various dimensions, and fitted with clipped-on covers in which the small articles in the equipment are carefully and compactly arranged to enable the driver-mechanic to find what he requires expeditiously. The side-carriers are painted with the familiar A.A. yellow, and indicate their ‘mission’ to stranded members by the prominent description ‘Mechanical First Aid’, supplemented by a large AA badge.”



“One of the sidecars used by the AA to assist members in distress.”

“THE OTHER DAY,” IXION WROTE, “I had a chance to make extended tests of one of the machines which are as truly modern as the Bolsheviks, and not merely refined reincarnations of our oldest friends. It was all that it has been called, so far as pace and performance were concerned...the most virile thing about the machine was its acceleration, which I demonstrated frequent and free to sundry enthusiastic spectators for several days. The tread of my back tyre not unnaturally displayed resentment; when you bang open the throttle of a willing engine on a 10 to 1 gear on a 1 in 10 hill with a surface resembling those nice little white chips some mourners sprinkle inside grave kerbs, something has got to slip; and after your cush drive has wound itself up solid, there is not much slip in a chain...gadzooks and oddsboddikins, if we accelerate some of the 1919 machines as they deserve we shall all be treating our back tyres as cush drives.”

“THOUGH THE LEADING LIGHTS in the motor cycle world in France do not intend to go in for serious competitions this year, the Competitions Committee of the Auto- Cycle Club of France has decided to hold a ‘touring trial’ over the Paris-Epernay-Rheims road, and back to Paris...the trial will occupy a single day, and the average speed will be 20mph for solo mounts and rather less for sidecar machines. There will be a hill-climb on the course. The trial will be held subject to the approval of the French Moto-Cycle Union.”



“Scene at the start of the Paris-Rheims-Paris reliability trial organised by the Motor Cycle Club of France. British motor cycles figured prominently, carrying off nine of the ten awards in the solo class, the remaining one being taken by an Indian.”



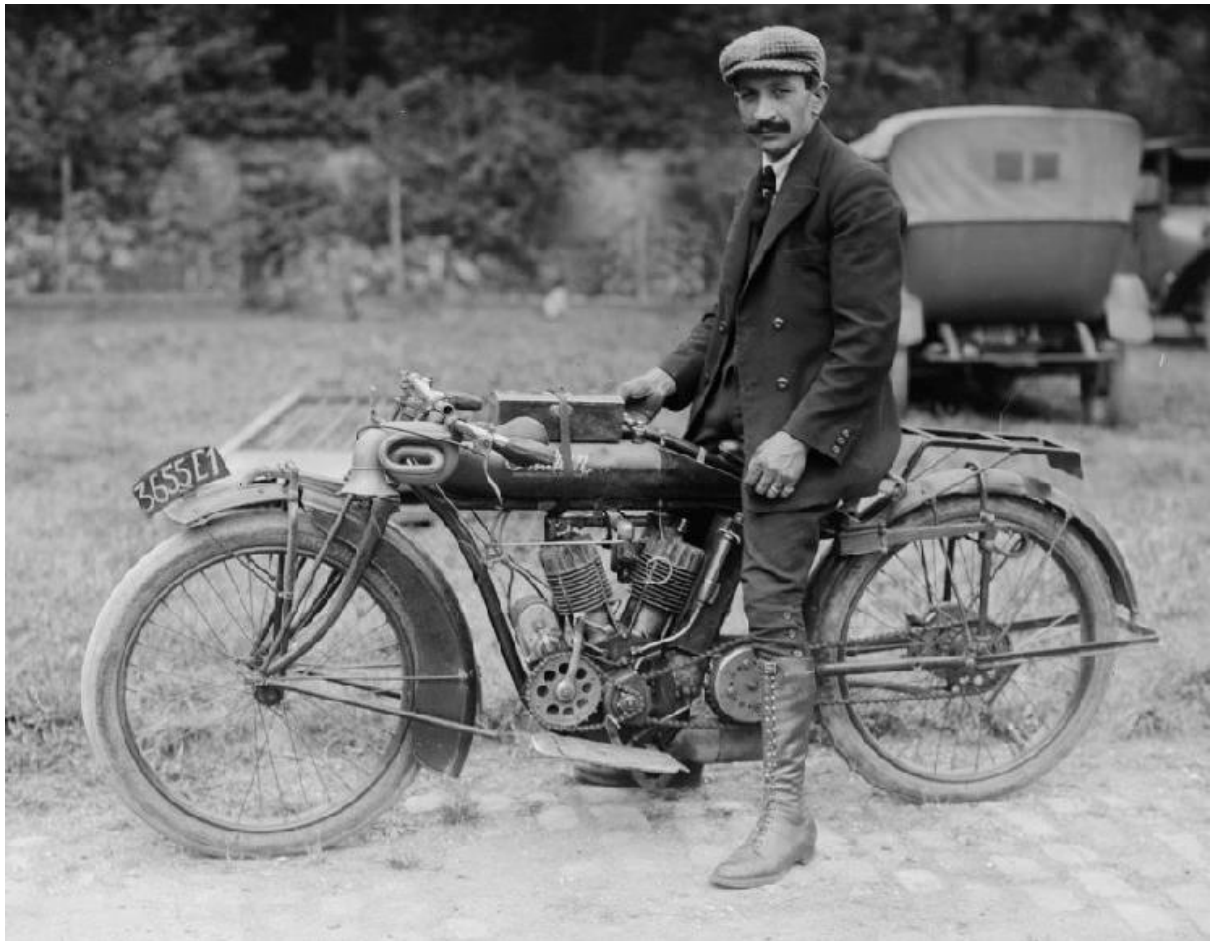
Blaiseur rode a 1,000cc Harley combo in the Paris-Rheims-Paris trial...



...Bouter rode a Rover in the 500cc sidecar class...



...Martinez rode a Model H Triumph—the civvy version of the wartime 'Trusty'...



...Comélie rode a 1,000cc Indian...

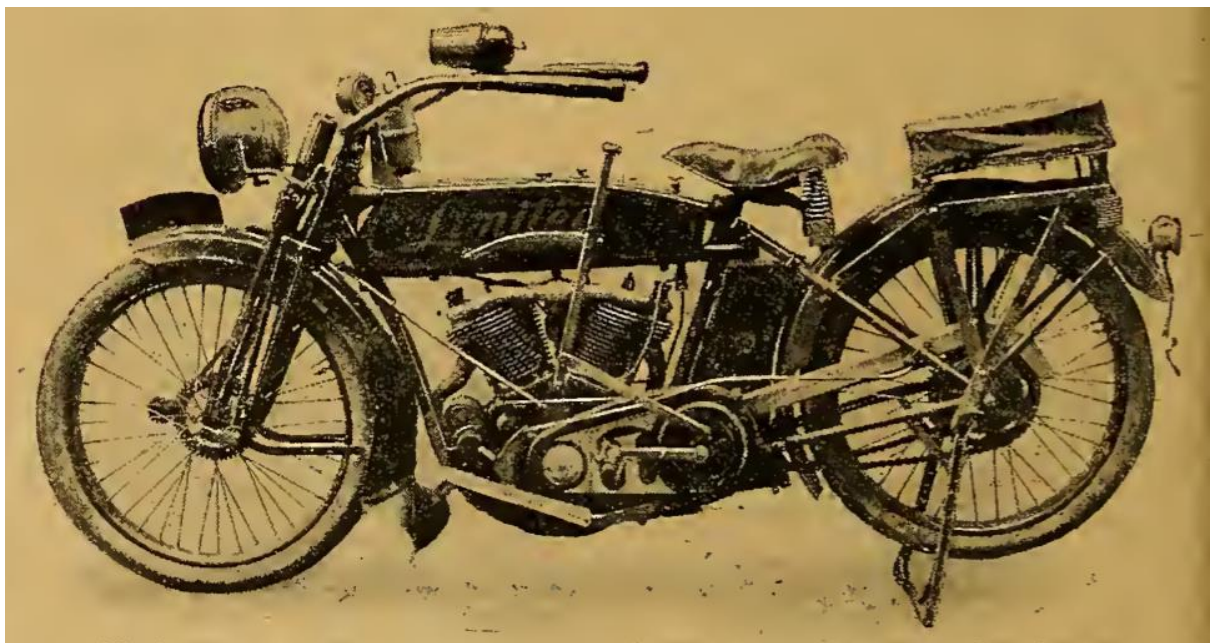


...and Peugeot factory rider Paul Péan, who earned his keep on bare-to-the-bone 50kg racers, doubtless appreciated the relative comfort of a touring Peugeot outfit.

“WE UNDERSTAND THAT THE BSA CO has proposed to purchase the issued shares of William Jessop and Sons, Brightside Works, Sheffield; the latter firm has supplied the Birmingham Small Arms Co with all its steel during the last seven years. The Sheffield firm would remain a separate company in the same way as the Daimler Co, of Coventry (which is also allied with the BSA), and would be responsible for the supply of raw material used in the associated businesses.”

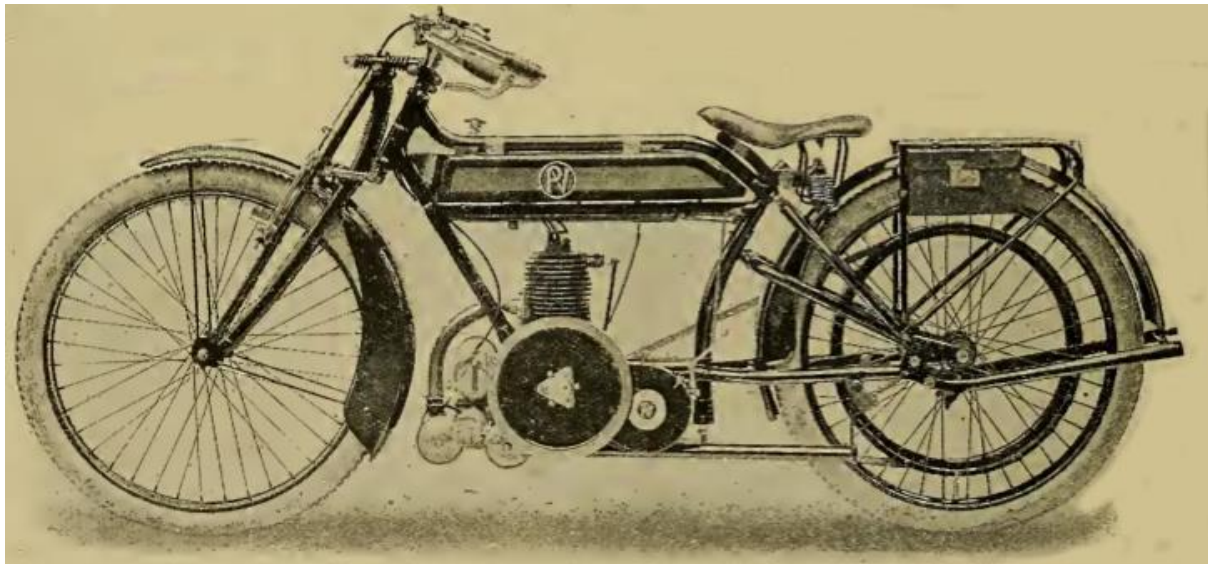
“A NEW SENSATION IN MOTOR CYCLING: It is rather odd that the average rider is taking no special interest in spring frames,” Ixion observed, “especially as they are not necessarily either heavier or more expensive than the rigid types. I suppose the explanation of this apparent callousness is that we are all thankful to get delivery of any old thing, and that we can only exercise fastidiousness when supply is about equal to demand. At any rate, let me once again assure our readers that the eulogies which our staff have repeatedly awarded to spring frames are not hot air. The contrast between an ordinarily good spring frame and the best rigid frames can hardly be exaggerated. I ride both types alternately, day in and day out; and, to be quite frank, I would never straddle another rigid frame but for the exigencies of my calling. I am sure there will be a huge slump in rigids when the possibilities of fore and aft springing become common property.”

“WHILE AT WAUCHOPE’S [A MOTOR CYCLE dealer in Fleet Street] the other day we came across an American motor cycle which is quite unknown in thi scountry. It is known as the Limited, and is manufactured by the Felbach Motor Co, of Milwaukee, Wisconsin. The particular model is stated to have been used by the Milwaukee police. In general appearance the machine is exceptionally American. It is fitted with a Schebler carburetter, neatly stowed away between the two cylinders, has overhead mechanically operated inlet valves, and a camshaft for each pair of valves. The raising of the exhaust for the purpose of releasing the engine compression is effected by a rotating camshaft through the twist handle and rod control. The machine is fitted with pedals, which are used for starting the engine. No details of this machine are available at the present time in this country.”



The Limited (the name is thought to represent the bikes limited’ production] must have been old stock as Feilbach ceased production in 1915.

“THE PV MOTOR BICYCLE IS FAMOUS as being one of the first motor bicycles made with a spring frame. Its makers, Messrs. Elliston and Fell, Perry Vale, Forest Hill, SE, may therefore be regarded as among the pioneers so far as spring frames are concerned. Their latest pattern PV is a, nice looking, well fitted up, and thoroughly practical little mount. At the present moment it is made in the form of a lightweight, and is equipped with a 2¾hp Villiers engine and a Chater-Lea two-speed gear box, transmission being by combined belt and chain. The spring frame has been considerably improved in detail since Messrs Elliston and Fell have returned from serving their country in the army...The machine is suspended in front on Brampton biflex forks, an extra heavy chain is fitted, and the handle-bars are wide and comfortable. We tried the machine on the road, and found the springing to be excellent in every respect. There is no possibility of side play, the wheel is the only unsprung weight, and there is no doubt that it satisfactorily absorbs all serious road shocks.”



“The Villiers-engined lightweight PV with spring frame.”

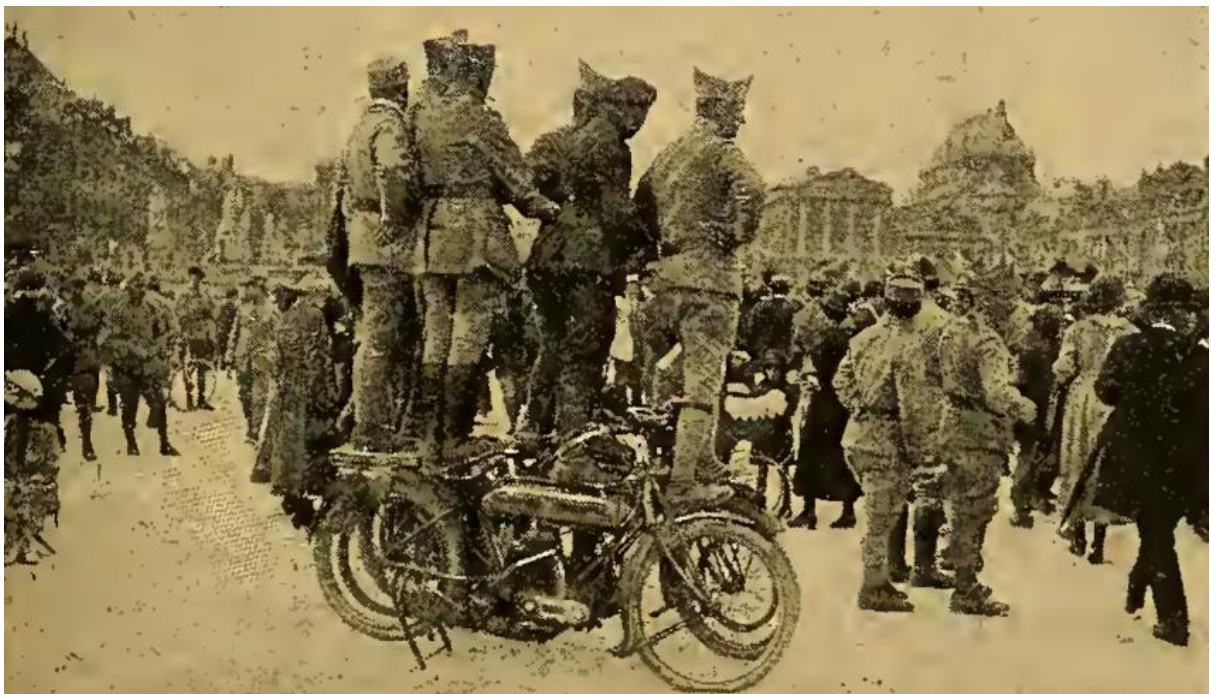
“WE LEARN THAT MR MJ SCHULTE, FOR MANY YEARS a director of the Triumph Cycle Co, of Coventry, has resigned his position and will retire into private life. Thus an excellent sportsman retires from the motor cycle world, and he will be greatly missed, for he was a prominent figure in the leading competitions, particularly the Tourist Trophy Race, in which event he annually took the keenest possible interest. Mr Schulte’s faith in the future possibilities of the motor cycle never wavered, and he and his company proved a tower of strength in and around the dark period of 1904 and 1905, when the industry was tottering owing to the production of heavy high-framed machines, which were unpopular; moreover, the uninformed daily press did its utmost to kill the pastime for ever by the publication of damaging articles. At a later period, but long before the war, Mr Schulte recognised in the high-tension magneto the solution of ignition troubles, which were a real source of dissatisfaction with motor cycles in the early stages of their development, and endeavoured to establish manufacturing facilities in this country, but in this he met with little encouragement.”

“LT EC HILL, WRITING FROM LAHORE, INDIA, prophesies that the Japanese will soon be competitors in the motor cycle held. ‘Possibly we shall not be very long before the enterprising Japanese step into the breach, as they appear to have done in most lines. Motor cycle manufacturers at home are cutting their own throats by neglecting Overseas trade in this manner. The firm that first establishes itself out here with a good machine at a fair price would beat all comers.’”

“MESSRS THE ENFIELD CYCLE CO, LTD, 48, Holborn Viaduct, EC, on Peace Day, when the Victory March passed their showroom, had on view a suitable display demonstrating a feeling of loyalty and respect for those who, previously under their employ, have fallen in the war. Their names, numbering 200, were draped with both the American and British flags, and suspended over one of the Enfield motor cycles, which was decorated with the colours of the British Empire.”



“In nearly every city the motor cycle played a prominent part on Peace Day. The picture shows a happy party of London motor cyclist sightseers.”

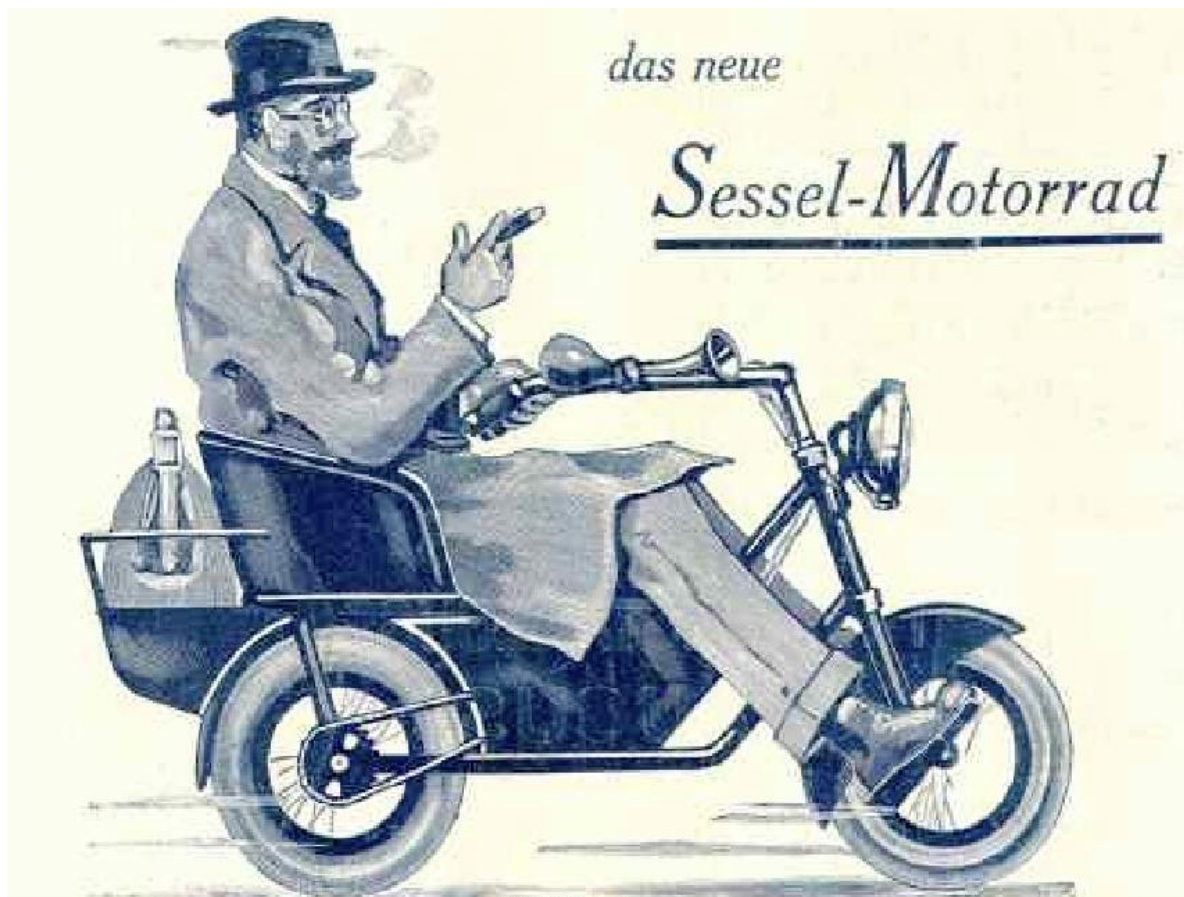


“Motor cycles as a grandstand: French soldiers put their Triumphs to a novel use on the arrival of the plenipotentiaries at Versailles to sign the Peace Treaty.”

“RECENTLY A HAILSHAM MOTOR CYCLIST WAS SUMMONED at Enfield for exceeding the speed limit and for obstructing the police, the evidence being that after being timed and stopped he returned into the trap and warned other motorists to slow down. He was defended by the solicitor of the AA, and, while admitting the speed offence, the case of obstruction was resisted, a previous judgment of the Lord Chief Justice being quoted.

The defendant was fined three guineas for exceeding the speed limit and the charge of obstruction was dismissed.”

A DANE, JOERGE RAMUSSEN, SET UP DKW at Zschoppau in Germany to make lightweight two-strokes including the ‘feet forward’ Golem. The firm also supplied engines, notably the hugely successful Hugo Ruppe-designed 120cc two-stroke ‘Das kleine Wunder’ (The Little Marvel) to marques including Aeroplan, AWD, Bamar, Defa, Feital, Elfa, Hulla Eichlker and Maco. Zschoppau would remain a bastion of two-stroke technology as the Z in MZ. (When he first moved to Zschoppau, in 1916, Ramussen dabbled in steam cars, hence the company name he chose, Dampf Kraft Wagen, which translates as an imaginative “steam-driven vehicle”. Now you know.



The Golem: just what the cigar smoking doktor ordered.

“A NUMBER OF MIDLAND accessory manufacturers have combined to form the Associated British Manufacturers’ Syndicate, with the idea of developing trade in Canada and North Ameroca. These firms include the Sphinx Manufacturing Co, Powell & Hanmer, Terrys of Redditch, Accles & Pollock, Benton & Stone, Abingdon-Ecco, W&A Bates, Rotherham & Sons, and the makers of the Amac carburetter.”

“MOTOR CYCLES, LTD: A PROSPECTUS, inviting the public to subscribe for shares recently appeared in several London and provincial papers. We feel it our duty to point out that, as we were unable to approve of the business methods of Messrs Rider

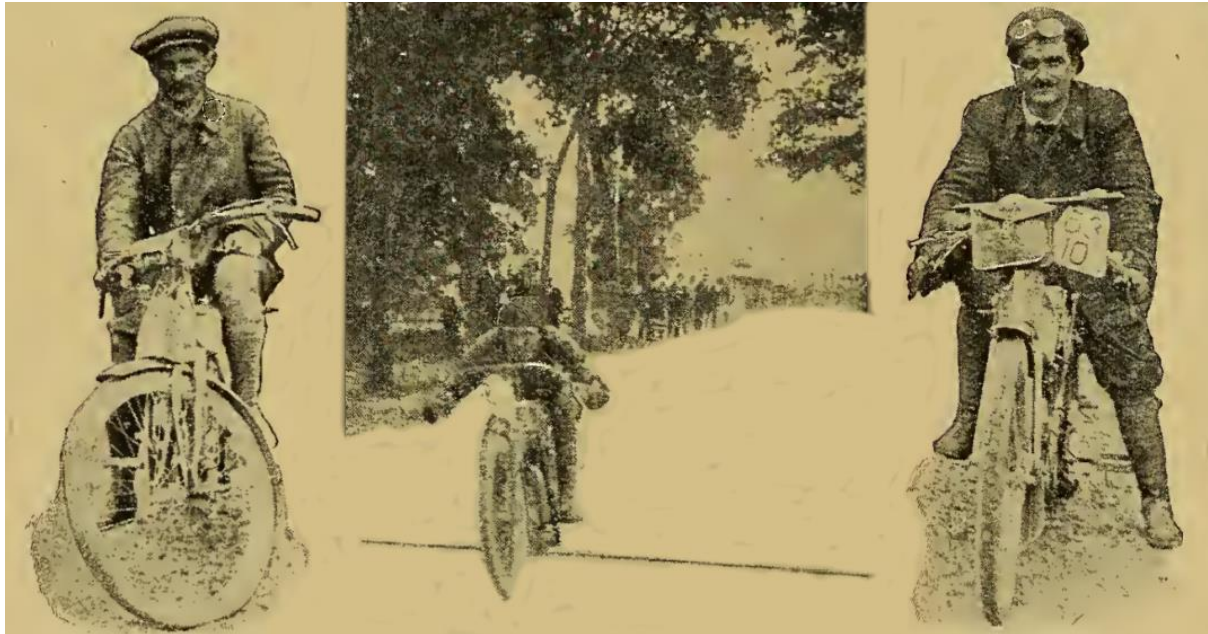
Troward and Co, whose business, Motor Cycles, Ltd, is acquiring, we recently found it necessary to refuse the advertisements of that company. The prospectus in question was, presumably on that account, not offered to The Motor Cycle, but, had it been so offered, it would not have been accepted by this journal. The highly speculative nature of the investment, to use a mild expression, is apparent from the prospectus...Mr Troward says that the only limit to the profits of the company is the difficulty of obtaining machines fast enough...he stated that he has placed orders for over 4,000 machines which have been 'accepted by the manufacturers'."



"One would imagine a tiny Pacific island to be the last place in which to find motor cycles and keen motor cyclists. But in the island of Suva, of the Fijian group, there is quite a live little club. The photograph sent to us by Mr H Lanyon shows with their owners an Ariel, Rudge, American Excelsior, and three Harley-Davidsons."

"FOR THE SECOND TIME A DOUGLAS 2 $\frac{3}{4}$ HP machine won the 350cc race in the recent Italian Grand Prix, while the fastest lap in the 500cc class was also accomplished by a flat twin. The Douglas was ridden by BajBadino, who rode a similar machine in the last TT, and, in addition to the Turin Municipality Trophy, is awarded the regularity prize by having a minimum difference of time between each lap. The winner of the 500cc class was Bordino, who rode a Motosacoche, and the regularity prize goes to Gianoglio on a Fongri, who also made the fastest lap time. The Fongri machine is an opposed twin of Italian manufacture, having a cubic capacity of 575cc on the standard models it has side-by-side valves placed on the top of the cylinders and operated by a single camshaft. Several other new Italian machines were in the race, including the twin-cylindered Delia Ferrera, with a 500cc engine having cylinders 68mm bore and stroke, and the Bianchi, with a V twin of 60x88mm. Another Italian classic motor cycle event is the Biella-Oropa, seven mile hill-climb, which was held recently between Biella (the Italian Manchester) and the convent at Oropa, a hill 3,870 feet above sea level, the length being seven miles...The Maffeis machine, winner of the 350cc class, has a JAP V twin racing engine, with overhead valves, and a chain-cum-belt drive through an Albion two-speed gear. The engine dimensions are 60x60mm. bore and stroke...The machine which is most eagerly awaited by the buying public is the Fongri. This is a 4hp flat twin following the lines of the Douglas engine, equipped with three-speed gear, enclosed

chain transmission, hand-controlled clutch, and kick-starter. The frame and spring forks, however, are not in accordance with English ideas, since the former is constructed of bent tubes and the latter are the usual Italian pattern.”



From the left: “Acerboni (Frera), winner of the 500cc class, Biella-Oropa hill-climb. Maffei, winner of the 350cc class at the Italian hill-climb [Douglasses were second, third and fourth]. Meldi (Borgo), who made fastest time of the day at the Biella-Oropa event.

“THE BEST SUPPORTED EVENT since trials were restarted was the Essex Motor Club’s speed test run off at Southend...there were 237 motor cycle and ninety car entries...The Essex MC put forward strenuous efforts to run the tests with clocklike precision, but the weather entirely upset the programme. A strong westerly breeze blew down, the course in favour of the competitors, but rain fell just after the start, lightly at first, and then in torrents. In a few moments the course was unsuitable for solo motor cycles, so the car classes were run off, and thereafter some confusion and a good deal of delay followed...The motor cycle events were run in classes, and the results were based on the times made over the kilometre course...Among the competitors we were pleased to see Major Jack Woodhouse, DSO, who did such magnificent work in the war, Sgt Milner, the inseparables WA Jacobs and JP Le Grand, and that fine old sportsman FW Applebee. EJ Bass, lately returned from Germany, was clerk of the course. The results of the motor cycle events were as follows: Touring machines 250cc, F Thorpe (2¾hp Douglas), 47.82mph; touring machine 1,000cc, B Houlding (7hp Harley Davidson), 61.48mph; touring machines 500cc, H Le Vack (3½hp Edmund-MAG), 47.61mph; sidecar 1,000cc, B Houlding (Harley-Davidson), 47.61mph; touring machines 750cc, LA Cushman (6hp Zenith), 44.58mph; any solo 350cc, E Kickham (2¾hp Douglas), 60.16mph; touring sidecar 750cc, JR Pattison (4¼hp BSA), 34.86mph; any solo 500cc, JW Draper (3½hp Triumph), 61.13mph; touring sidecar 1,000cc, WJ Barker (8hp Henderson), 42.22mph;

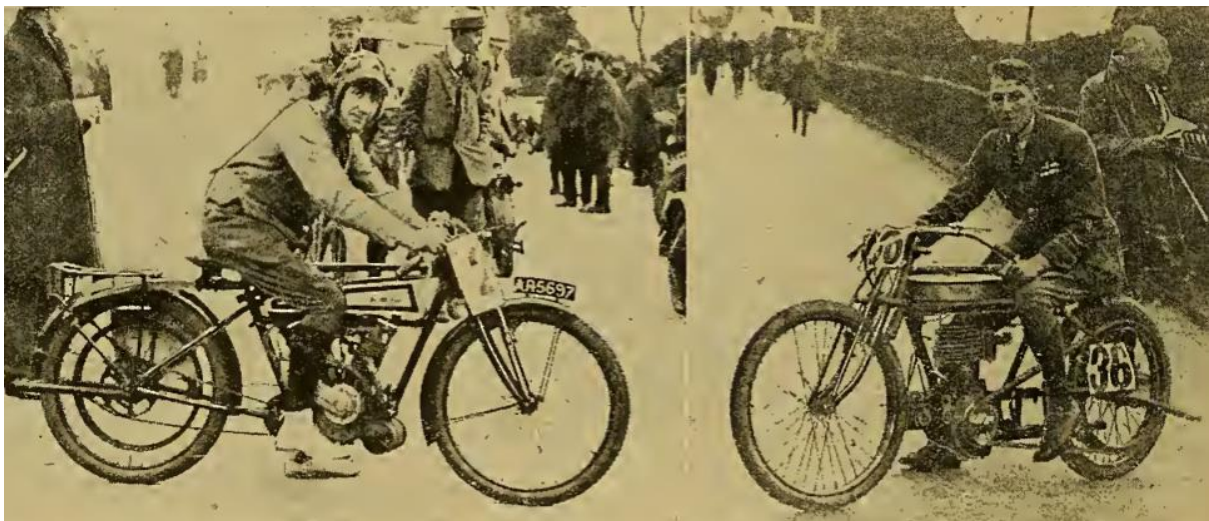
any solo unlimited, Capt O Baldwin (8hp Matchless), 69.92mph; motor scooters, HH Burrows (1½hp Skootamota), 18.5mph; any solo 1,000cc, E Remington (8hp NUT), 70.81mph.



“JR Pattinson, 4¼ BSA sidecar, who won first prize in ‘750cc touring sidecar machines’.”



“A Milner (2¾hp shaft-chain-drive Diamond), JV Prestwich (2¾hp Diamond-JAP), and AE Wills (2¾hp Douglas) about to start in the 350cc solo race.”

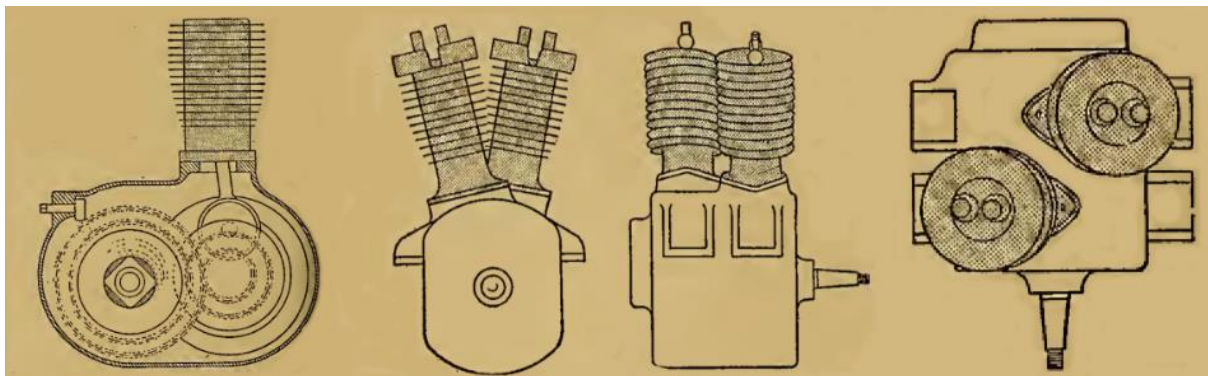


“H Le Vack (3½hp Edmund-MAG), first in ‘standard touring machine 500cc’; and Major J Woodhouse, DSO, MC (3½hp Norton), second in ‘any solo machine 750cc’.”

“DURING THE WAR PERIOD three experimental models of the Scott Sociable have been made and tested, and a new company, the Scott Autocar Co, Ltd, has been formed to manufacture the completed machine. This company has no interest in the Scott motor cycle, which will continue to be produced at Saltaire, by the Scott Motor Cycle Co, Ltd, which, with an issued capital of £80,000, has taken over the business of the Scott Engineering Co, Ltd. Incidentally, Mr Alfred A Scott being now devoted entirely to

experimental work in connection with the Sociable, he has no longer any interest in the manufacture of the Scott motor cycle, either in a financial or advisory capacity.”

“ANZANI, THE FRANCO-ITALIAN ONE-TIME MOTOR CYCLIST, later an aviator, and now an engine designer, is responsible for an interesting motor cycle engine, in which the engine and two-speed gear box form a complete unit. The engine has two cylinders, 60x90mm, 508cc, and is said to develop 5-6 hp, and, in order to secure even torque both pistons are arranged to rise and fall together, the crank throws being side by side with the primary gear wheels between them...Overhead valves are worked from a camshaft, the valve mechanism following aviation practice...In view of the success of Anzani with his aviation engines, it is reasonable to suppose his motor cycle engines will be well finished and efficient.”



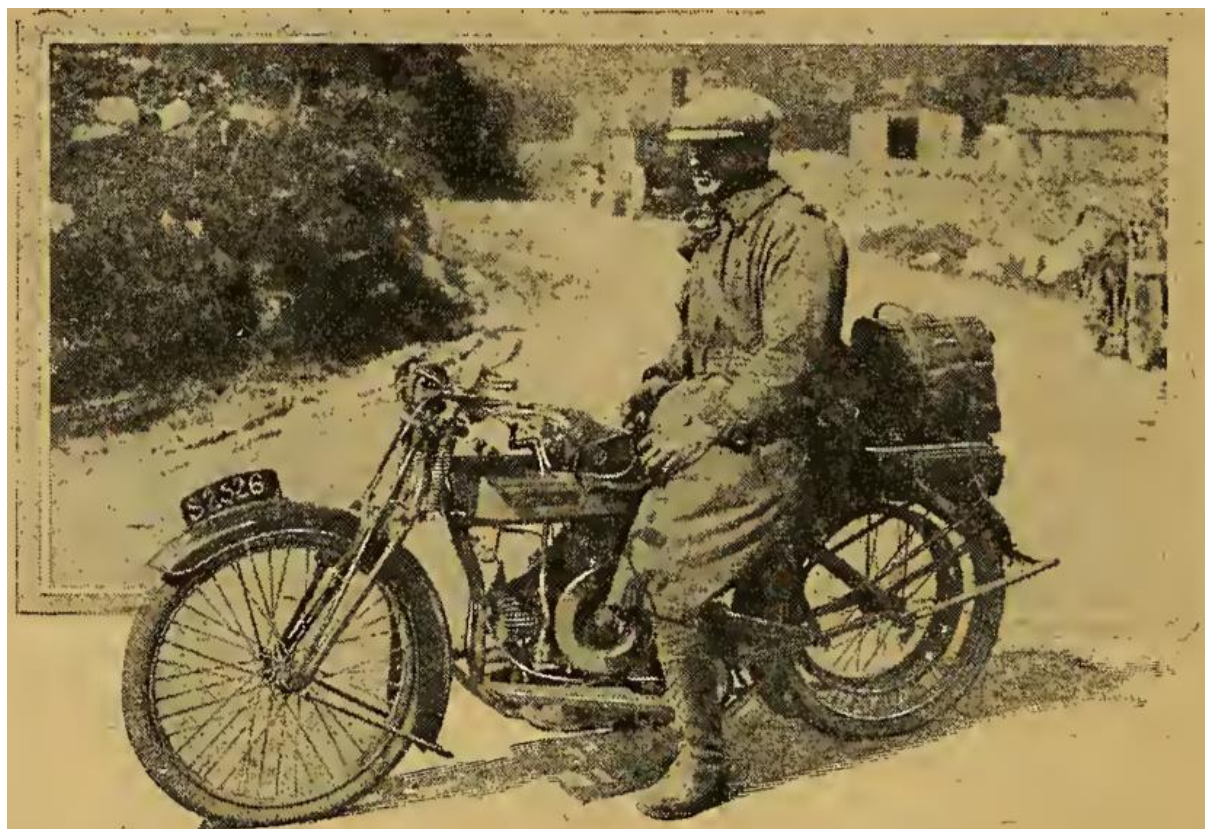
Anzani launched a tidy unit-construction ohv 30° transverse V-twin.

DEWAR MANUFACTURING OF HOUNSDITCH, London, E1 came up with a novel anti-theft device: a three-piece locking device, in steel or phosphor-bronze, to secure the gear lever in the neutral position.

“RECENTLY THE EDINBURGH MAGISTRATES had before them the question of licensing motor cycles and sidecars under the Hackney Carriage Acts, and decided that these were not suitable subjects for such licences. We should like to know the grounds upon which this decision was made.”

‘CHINOOK’, WHO COVERED THE SCOTTISH Six Days’ Trial on the latest 3½hp spring-frame Douglas, reported: “The springing of the Douglas saved one from all those fatiguing spine jolts which make the Scottish Six Days, in particular, so tiring an affair for most of the performers...never again will this scribe tackle a six days’ trial on a rigid frame...The engine is an absolute gem. It hummed away like a little dynamo, and seemed to improve as the days passed—no vibration, no noise, just a faint hissing purr, which changed to a deep roar when the throttle was yanked open. Some tremendous averages were put up over long distances and bad roads with perfect ease and comfort—in fact, I have never ridden a machine in which time could be made up with such absolute effortlessness...The mechanical oiling system is foolproof. One merely needs to set the drip and leave it there...in spite of the atrocious, conditions, petrol

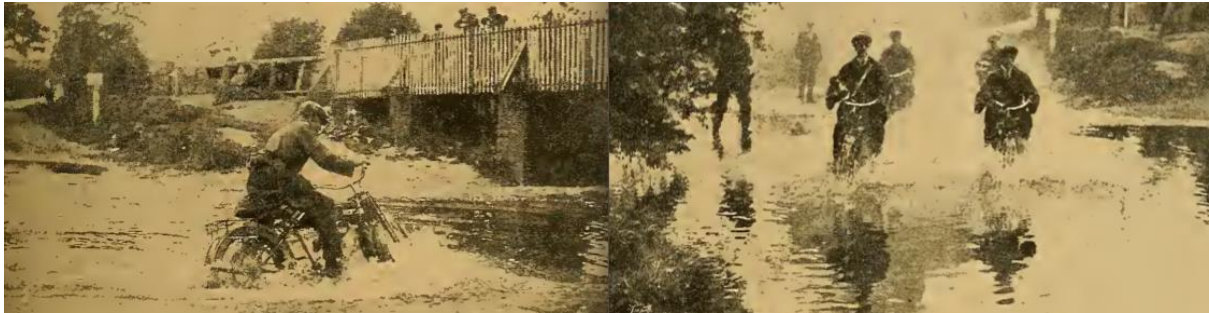
consumption usually averaged out at about 55mpg...The hand clutch is delightful, and the new model will fill the bill for practically every rider, from the elderly potterer in search of maximum comfort and docility to the speed merchant who wants something that will hold the road and 'rev' like nothing he has ever tried before." [You'll find Chinook's SSDT report in the Features section.]



Chinook, *The Motor Cycle's* man at the SSDT, was mightily impressed by the springer Douglas.

BSA FACTORY TESTERS TOOK TO THE WATER to publicise the remarkable water resistance of the EIC magnetos which the factory had adopted as standard equipment. "Several stops and restarts were made in the water, and one machine, with no part of the engine unit out of the water except the cylinder and carburetter, was kept running for two minutes until it stopped from back pressure set up by exhausting under water. On being wheeled to the bank after one or two preliminary kicks to eject the water which spouted from the silencer and crank case release in great quantities it started up without difficulty. Indeed, none of the machines were put out of action, despite the fact that no special preparations were made, other than in one or two cases only, a coating of grease had been applied to the carbon brush holder. For an hour the machines were splashing their way through the water, and at the end of that time they were all running perfectly and no misfiring was evident...EIC Magnetos, Ltd, are indeed to be congratulated, and their specialisation on motor cycle types is meeting with great

success, the following firms having already commenced to fit this make, so we are informed: BSA, P&M, Levis, Douglas, Allon, Rover, Sunbeam, and Morgan.”

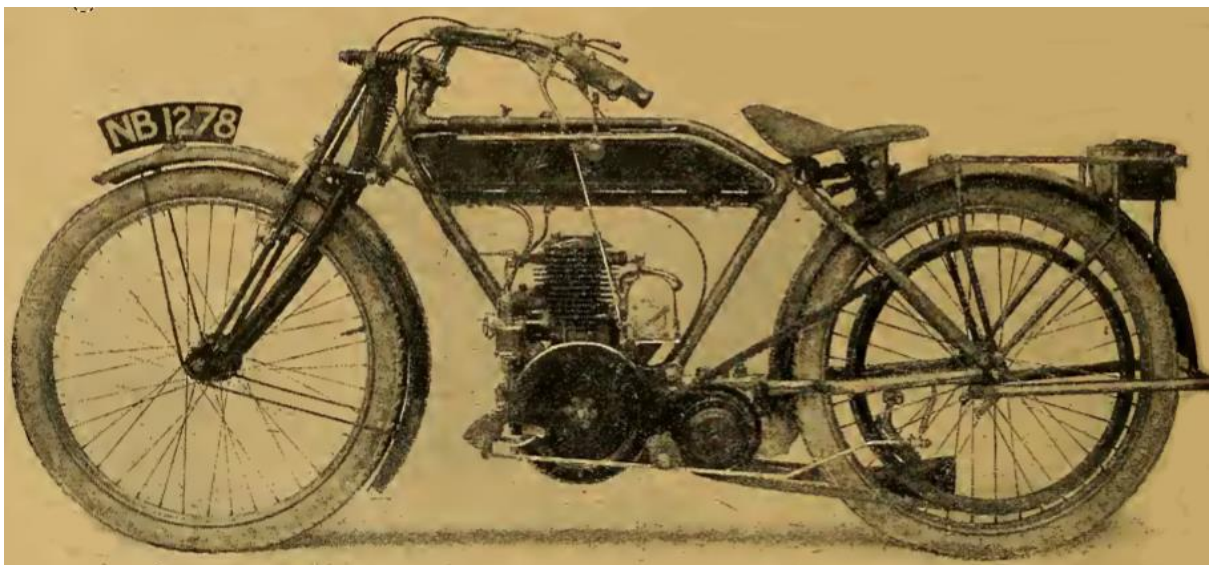


“Any magneto manufacturer might well be proud of this demonstration of waterproofness.”

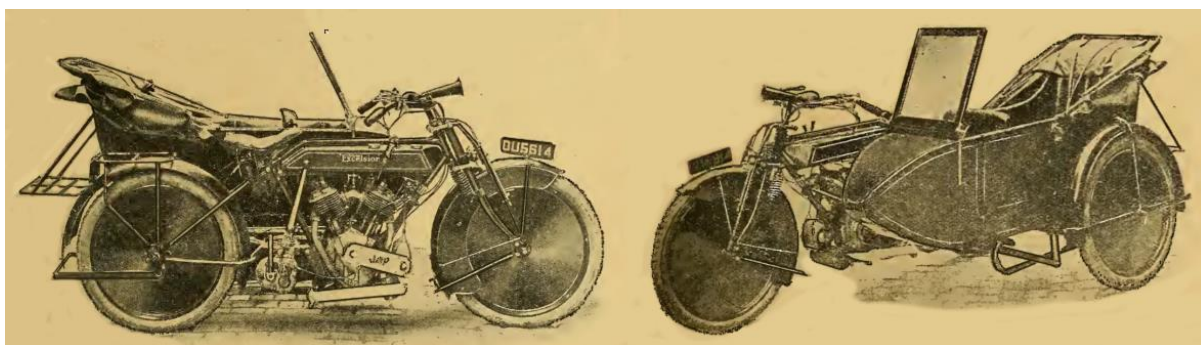
“RELICS OF A FORMER LIFE: Many of the competitors in the recent Scottish Trials wore their tunics with pips and shoulder straps removed, while field boots, British warms, or trench coats were the common order.”

“TO DATE THE MOTOR SCOOTER epidemic has not reached the North. The present expectation that scooters will swarm like bees by September seems to be based on slender foundations.”

“THE SCALE TWO-STROKE MOTOR CYCLES enjoyed quite a good reputation for sturdy construction before war requirements compelled their temporary withdrawal from public notice. The makers, Roberts and Hibbs, Bank Street Works, Droylesden, Manchester, are now re-entering the field with a much improved model embodying the Precision 350cc two-stroke engine...The general appearance of the machine is very good, being finished in deep crimson, lined in black and gold with grey panelled tank.”

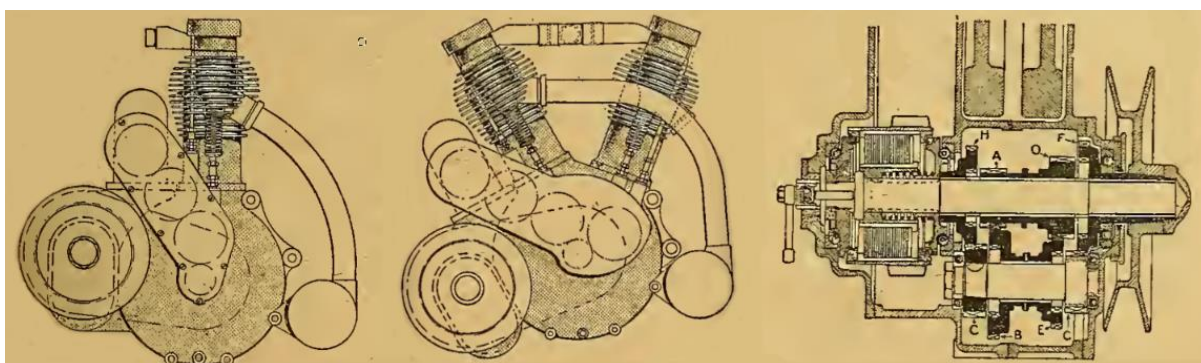


Scale had been in business since 1906; for its first post-war model it switched from JAP to a 350cc Precision two-stroke.



Excelsior's post-war combo was clearly aimed at the family market. Power was supplied by a 953cc 8hp JAP twin with a Sturmey-Archer gearbox; 6in of ground clearance was suitable for export markets; there was provision for a dynamo in front of the rear mudguard.

"THE UNIT SYSTEM OF CONSTRUCTION ie, the building of engine and gear box integral—has been almost an obsession with many designers for several years. In the drawing offices of most motor cycle manufacturers there are filed away the drawings of 'engine gear' units which, for some unknown reason, have been 'turned down' by the powers that be. True, a few machines embodying this feature have appeared on the market, notably the Diamond, Singer, Precision lightweight, and the Villiers four-stroke, but, excepting the first-named, the models now offered to the public do not include such machines. Advantages are so apparent from both the riders' and the manufacturers' points of views that one is constrained to wonder why, in these days of advanced design, the unit system has not been more seriously adopted. The Villiers unit was most successful, although the engine was only 74x80mm bore and stroke respectively (344cc). The first one made covered the distance between Wolverhampton and London at an average speed of 27mph, and was capable of 53mph, at which speed the revolutions of the engine were 3,400rpm."



"Single cylinder engine and gearbox designed as a single unit. A compact unit consisting of twin engine and gear box. A simple four-speed gear box."

"SEVERAL THOUSANDS OF NEW RAC repairer agents have been arranged for, and the Club is endeavouring to appoint suitable garages and other businesses to maintain the new scheme in every locality. The RAC repairer agent, with garage facilities approved by the committee, will prove a very useful person to ACU members by virtue of the fact that

they are associate members of the RAC. One of the principal objects of his appointment is to render motor cyclists service in connection with the well-known 'Get-you-home' scheme. Once the scheme is in full working order, wherever an ACU member may meet with a breakdown or accident on the road he ought to be sure of obtaining practical assistance from an RAC repairer agent. On receipt of the ACU official 'Assistance required' voucher the RAC repairer agent will send a relief car to convey him and his passenger home, or to a railway station, within the limits of distance prescribed by the scheme."

"IT HAS LONG BEEN TAKEN as a matter of course that our petrol supplies should come from the recognised oil-well districts of the world, but to-day we know that geologists consider the oil-bearing shales of Norfolk, hitherto of hazy existence to the man in the street, to be the richest in the world. The credit for the discovery of the value of these deposits is due to Dr Forbes Leslie, FGS, who estimates that two-thousand million tons of shale lie ready for mining, and that a yield of 200,000,000 tons of petroleum products may be expected; the value of this is apparent when our yearly consumption is only 1,500,000 tons. The workings are already in hand, and one distillery is now in operation, so that in the near future we may hope to have abundant supplies of petrol produced within our own boundaries."



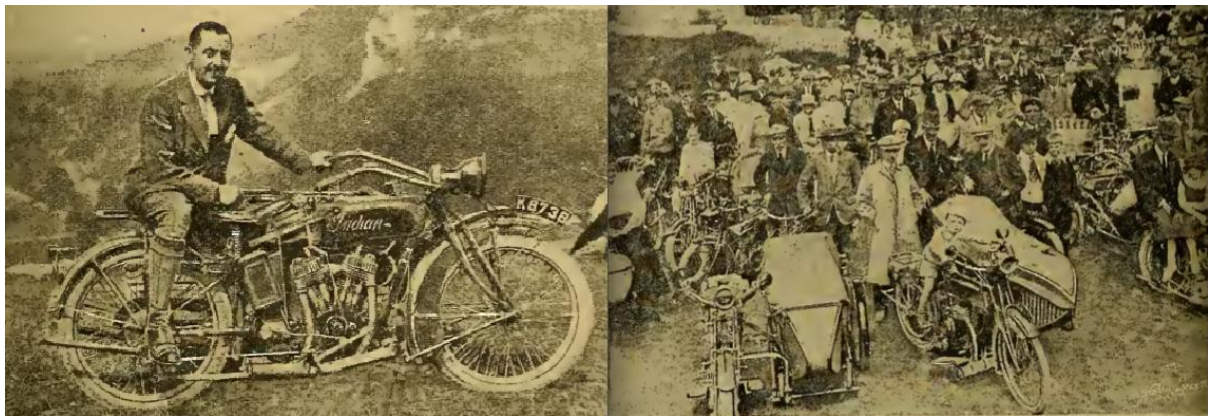
The Blue 'Un ran a series of touring guides, including a 91½-mile run starting and finishing in Oxford. Hardly earth-shattering news, but the artwork was gorgeous. From the left: "The Abbey Gateway, Evesham; the old-timbered buildings of Tewkesbury; in the Cotswold village of Stow-on-the-Wold."



...and from the same series: "The old ruined abbey at Besselsleigh. Burford Priory, a fine old country seat. A Thames pastoral at Fairford. The Market House, Witney."

"CLUB RALLY AT MONSAL DALE...Favoured by one of the brightest and warmest days we have had this year, the social run to Monsal Dale, in the Peak District of Derbyshire, on the 10th August, organised by the Nottingham & DMCC, associated with other clubs in

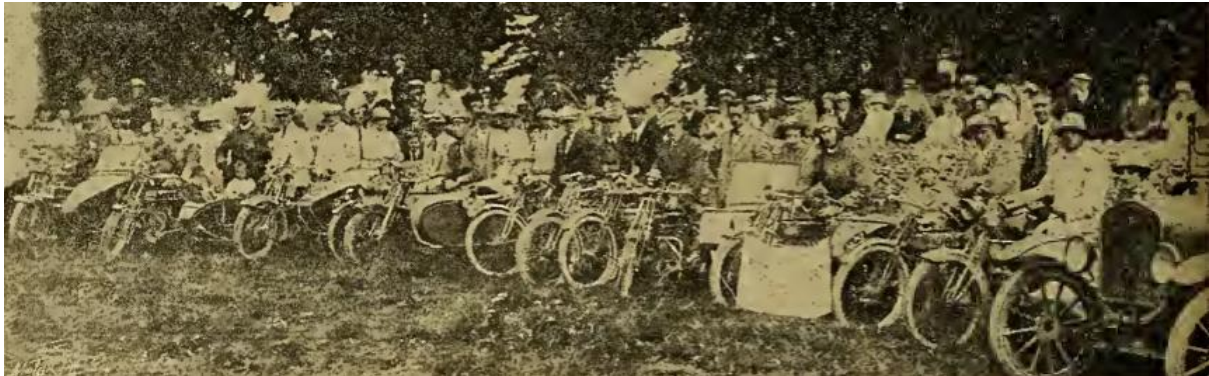
the East-Midland centre, was attended by motor cyclists from all parts of the Midlands and surrounding districts. Many had arrived by ten o'clock in the morning, and were soon at work with luncheon baskets and Primus stoves; at mid-day the riders from more distant places were coming in thick and fast, and either parked their machines at the Dale Head, or in the large field reserved for the various clubs. The Nottingham and Liverpool bodies were undoubtedly the best represented, but the Sheffield, North Derbyshire, Birmingham, Manchester, and Lincolnshire clubs all turned up in force. Independent riders from Leeds and other places in West Yorkshire were also noticed, while from the South many had travelled from the Coventry district, all of which goes to show that these social meets, where a great variety of new machines may be seen and experiences exchanged, are very attractive to the unattached rider, as well as to the clubman. The machines, as well as the splendid view from Monsal Dale Head, received much attention;



“A 1919 Indian, one of the first to arrive in England, ridden to the club meet at Monsal Dale by Noel H Brown (hon sec Liverpool MCC). [Right] At Monsal Dale: a part of the assembly of machines and riders on the social run of the associated East Midland clubs. Over 300 machines were present. “

indeed, one is led to believe that the average motor cyclist is keener to observe his neighbour's mount than the beauties of the landscape, and every model, whether new or old, came in for a critical examination. Almost every class of machine was present, sidecars being in the majority, and, while new models were fairly prevalent, only a few new designs were seen. The Skootamota, however, driven down by Dan Bradbury of Sheffield, erstwhile exponent of big single-cylinder outfits, was a centre of much interest. After the various clubs had all assembled a move was made for River Bridge, Ashford, where a competition for the Raleigh challenge trophy (held by the Nottingham Club) was held. The tests consisted of easy starting, slow running (free engine), silent running (free engine), and acceleration test (up-hill). Six classes were arranged, so that every machine entered could compete with an equal chance of winning the premier award, the Raleigh trophy, valued at 100 guineas, going to the rider gaining the largest aggregate of marks in the various tests. Other prizes were also offered for lady members and cycle car drivers. Various hill-climbing stunts were afterwards attempted on the

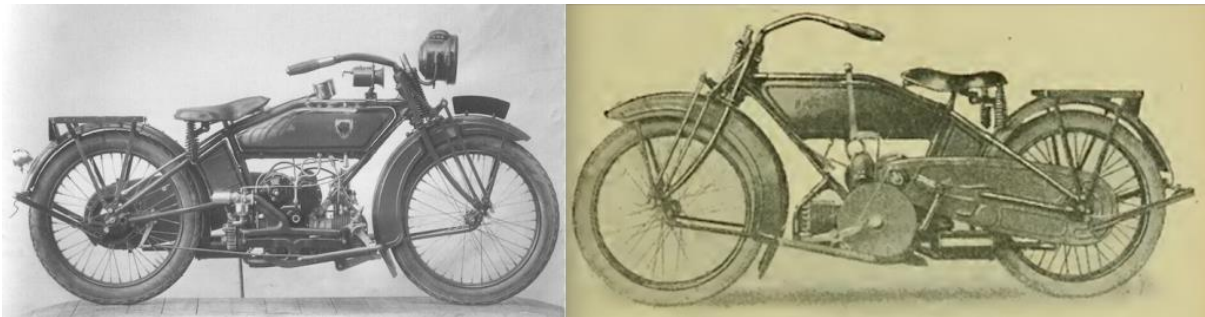
rough and grassy Monsal Bank, and so the affair came to a conclusion and the riders dispersed in groups, and, one by one, in a dust cloud, the like of which could only be raised on the roads of Derbyshire with their finely powdered coating of white limestone.”



“Members of the Nottingham MCC at Monsal Dale last week end.”

HAVING EXPERIMENTED WITH A lightweight flat-twin during the war, Harley-Davidson upped the stakes with its first peacetime debutante: a 6hp 584cc version. The Blue ‘Un reported: “In the matter of weight (257lb) and nominal horse-power it is equal to the usual British passenger machine...[it has] sidecar lugs built in the frame, so it is evident that the manufacturers intend it to take two people if desired, while, being well balanced and not too heavy, it should make a comfortable and tractable solo mount.” The multi-plate clutch and three-speed box were fitted above the engine next to the mag with pinions rather than chains to reduce clatter. “Both engine and gear box form a single unit...another interesting point is the heated ‘twin-cast’ manifold, which means that inlet and exhaust pipes form a single casting, a startling departure from standard motor cycle practice. The casting is held on to the engine by two nuts, and so may be easily removed, while the branch from the main inlet pipe to the carburetter is exhaust jacketed. It is this branch which is most liable to condensation, and as the jacket is of ample size and has a wide outlet pipe it should perform its intended function in a highly satisfactory manner...the frame is of the usual single tube rigid type, supporting the engine by attachment at three points to the crank case and front cylinder. The rider is insulated from road shocks by the sprung seat pillar, and the front suspension is provided for by a special type of trailing or castor spring fork of substantial construction. Unlike the bigger models, the tanks for oil and petrol are made as a unit, the former holding two quarts, and the latter over three gallons...A speed of 55mph is obtained, and we should say the machine should prove a good all-round double-purpose mount.” The Sports Model won its spurs with a series of stunts. Soon after its launch Jack Fletcher rode a Sports Model to the 10,046ft peak of San Antonio mountain near Los Angeles. The mountain was generally known as ‘Old Baldy’. The Blue ‘Un reported: “A tractor rear wheel was fitted to enable the machine to make progress over the loose shale and crumbling granite, and the climb was accomplished without mechanical trouble...on a section known as the Devil’s Backbone, the trail is barely a foot wide,

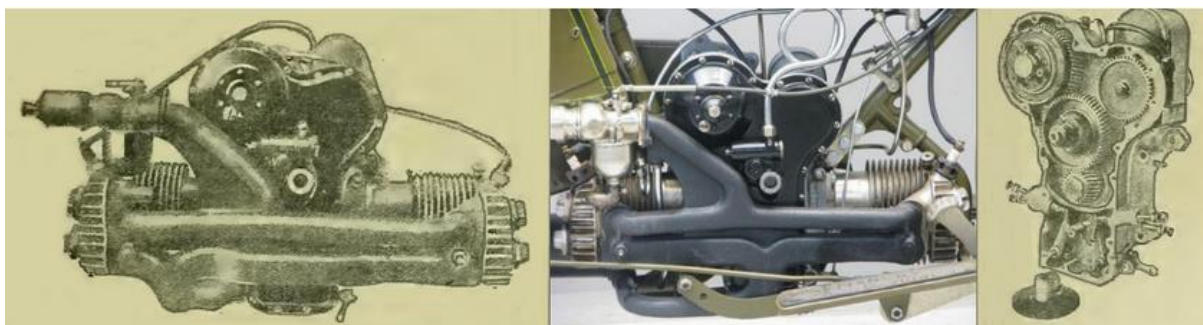
sloping away at both sides in a drop on to loose stones some 3,000ft deep.” Harley-Davidson publicity manager ‘Hap’ Scherer rode one from New York to Chicago in 31hr 24min, knocking 10hr 56min off the record. Then he cut the ‘Three-Flag’ record (in which the rider starts in Canada, crosses America, and enters Mexico) to 64hr 58min, averaging 25.4mph for 1,715 miles. William Brazenor, son of a Brooklyn Harley dealer, rode from Milwaukee to New York City in just over 70 hours. And Ted Gilbert became the first motor cyclist to climb a 4,045ft peak near Portland, Oregon. A local newspaper was impressed: “Larch Mountain is 11,000 feet of narrow, brushlined trail. Rugged and heavily timbered, with huge boulders, sharp stones, and logs lining its sides, it had previously withstood all attempts to reach its summit on a motor vehicle. The three-mile climb took 2 hours and 20 minutes and needed neither chains nor a tractor band to help the Sport Model along. A big sign measuring 4 feet by 6 feet nailed to the side of a mighty fir tree marks the time, the name ‘Harley-Davidson Sport Model’, and the name of its rider, so that when various other mountain climbers would later reach the top, they would be able to see that other things besides goats and nags could climb the hazardous cliffs.”



“The new 6 hp Harley-Davidson flat twin. The engine capacity is 584cc” It was dubbed the Sports Model, so say hello to the first Harley Sportster.



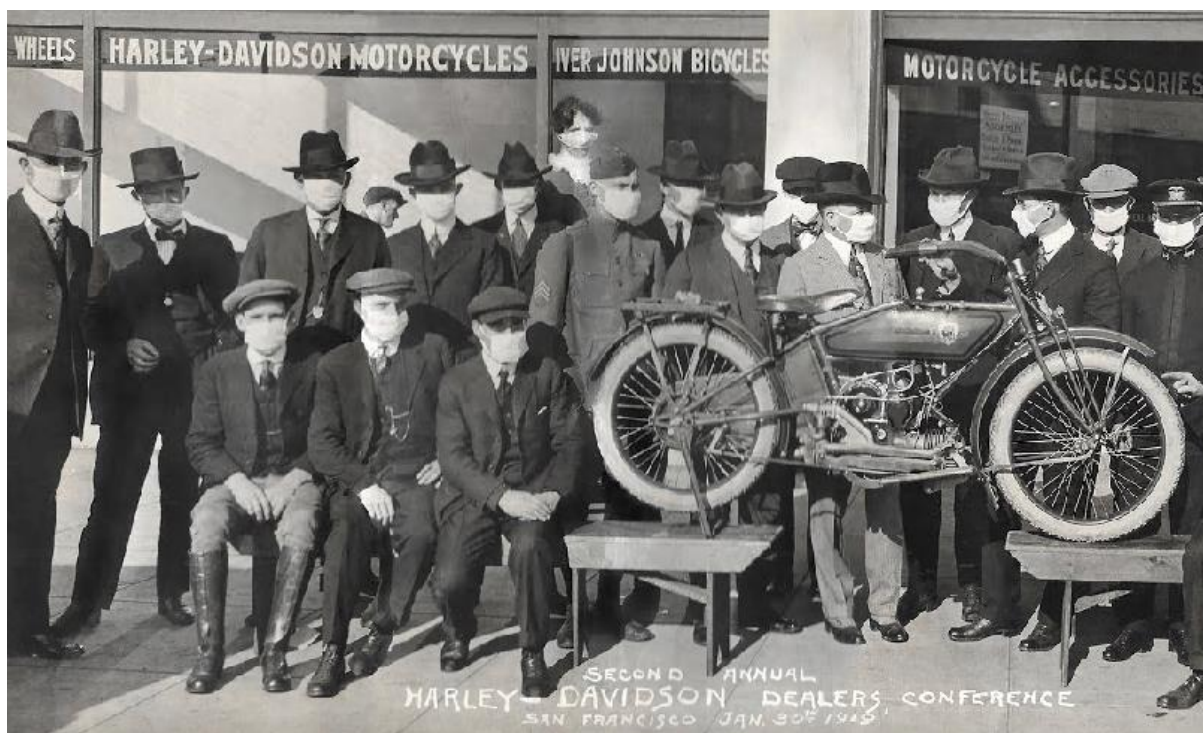
As this restored example shows, Harley was happy to stick with a khaki finish. (Right) “Jack Fletcher pictured with the the photographer and cinematographer who followed the trail on foot, driving three mules which carried their apparatus.”



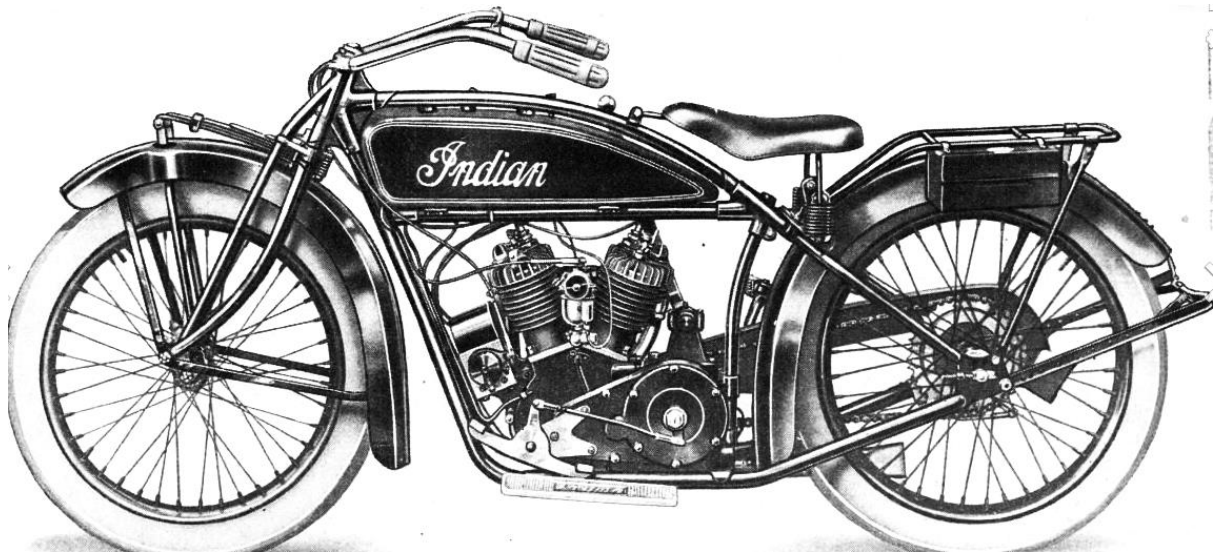
An interesting contrast between the period pic of the engine and a modern restoration. "The adoption of helical transmission eliminates the short chains to gearshaft and magneto."



Ted Gilbert, Hap Scherer and William Brazenor helped Harley Davidson promote the all-terrain capabilities of the middleweight Sports Model. The newcomer was also actively promoted to attract women riders.



The Sports Model took centre stage at the 1919 Harley Davidson Dealers Conference, which was held despite the global Spanish Flu pandemic.



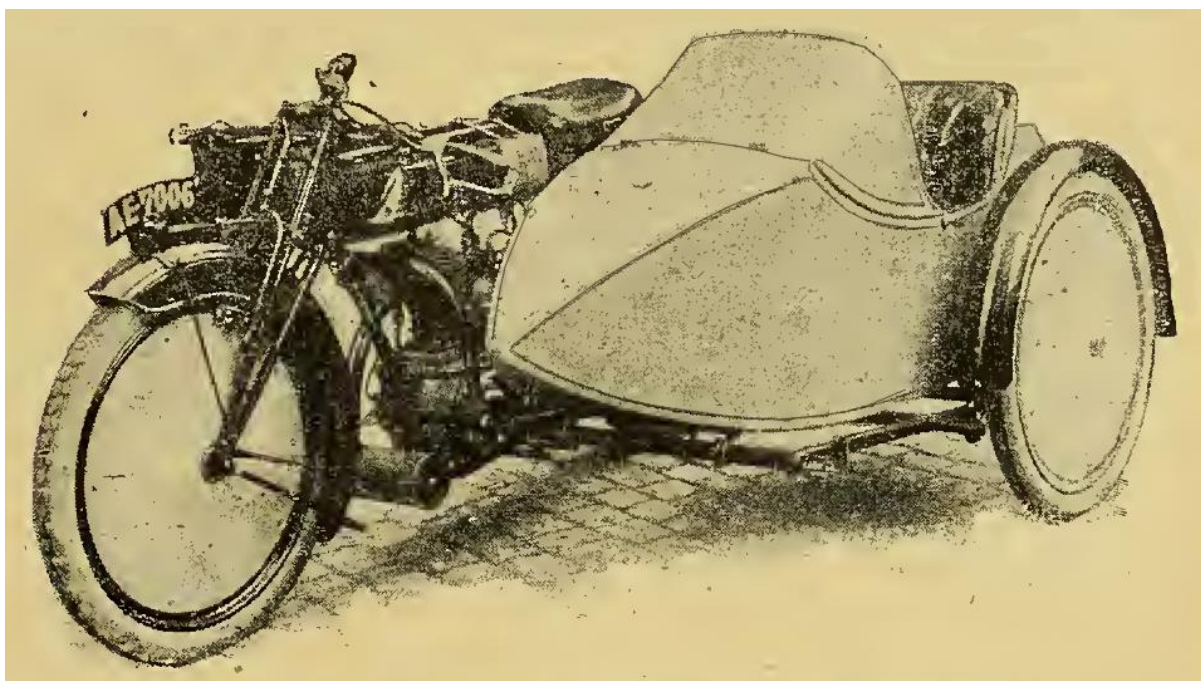
Harley Davidson had climbed aboard the flat-twin bandwagon with the Sport Model but Indian stuck to its V-twin guns with its latest middleweight, the 606cc Scout. A duplex rigid frame helped keep the weight down to 260lb; features included a 'semi-unit construction' bolt-on three-speed gearbox with geared primary drive, 26in wheels, European-pattern right-hand kickstart and a claimed top speed of 63mph. The Motor Cycle's man in the States reported: "I had it out in deep sand and could ramble around in second gear and batter down 4in ruts in spite of my 195lb of beef and bone."

BY THE AUTUMN WARTIME IMPORT restrictions on American motor cycles had gone and, despite a 33% tariff, Harleys and Indians were once again competing with home-brewed bikes. News from the lost colonies was also available, courtesy of the Blue 'Un's US correspondent, one EB Holton: "With the late and highly successful war hull down on the horizon the pastime of motor cycling has again come into its own, and on a bigger, better, and busier level than ever. Possibly the most illuminating indication of this far greater popularity is the fact that, whereas only two large factories were keen for the racing game at the beginning of the season, the Harley-Davidson and Indian, who played a lone hand for several months and shared all honours between them, now as the season goes into the tail end, but with plenty of big races ahead, the Excelsior factory has had a hypodermic injection of pep, and they are hot after the first honours at the biggest race of the year—Marion, Indiana 200-mile road race—with eight motors that burn the wind. The Reading-Standard, too, have felt the urge, and as their stock motor rates well over-sized, they are making a 61 cubic inch (1,000cc) job to get back in the fold and line up with the rest of the field when the starter's flag drops. With four makes hot after the glory we may look forward to a busy season." Following a visit to Springfield, Mass, Holton added: "The big Indian is being gone over by CB Franklin, that well-known Irish road rider who gave a good account of himself on track and road competitions several seasons ago, and no longer will there be adjustable handle-bars and all the Swedish bric-a-brac cluttering the clean lines of the head and fork fastening as in the past. I saw a reverse gear working satisfactorily on the sidecar outfit."



Excelsior's board racer was ready, willing and able to take on the Indians and Harleys.

"E Kickham, the Bristol agent for Sunbeams and other well-known machines, has for several years been developing a sporting sidecar on attractive lines, and giving a greater degree of comfort than the average small passenger attachment. This he has now introduced as the Dinky sidecar...In the 3½hp Sunbeam outfit illustrated the chassis is a Watsonian, with rear springing only...Side pockets, footrest, and a thick foot mat are included in the specification...A removable hood can be fitted as an extra...The tail contains a capacious locker, with ample room for two tins of petrol and other necessities...A good range of colours is available: black or royal blue, with gold lining in either case, Indian red, and primrose yellow...This sidecar presents so many attractive aspects that one finds no particular point to criticise. Mr Kickham, as may be expected, is experiencing a big demand."



“The Dinky sidecar, fitted to E Kickham’s 3½hp Sunbeam.”

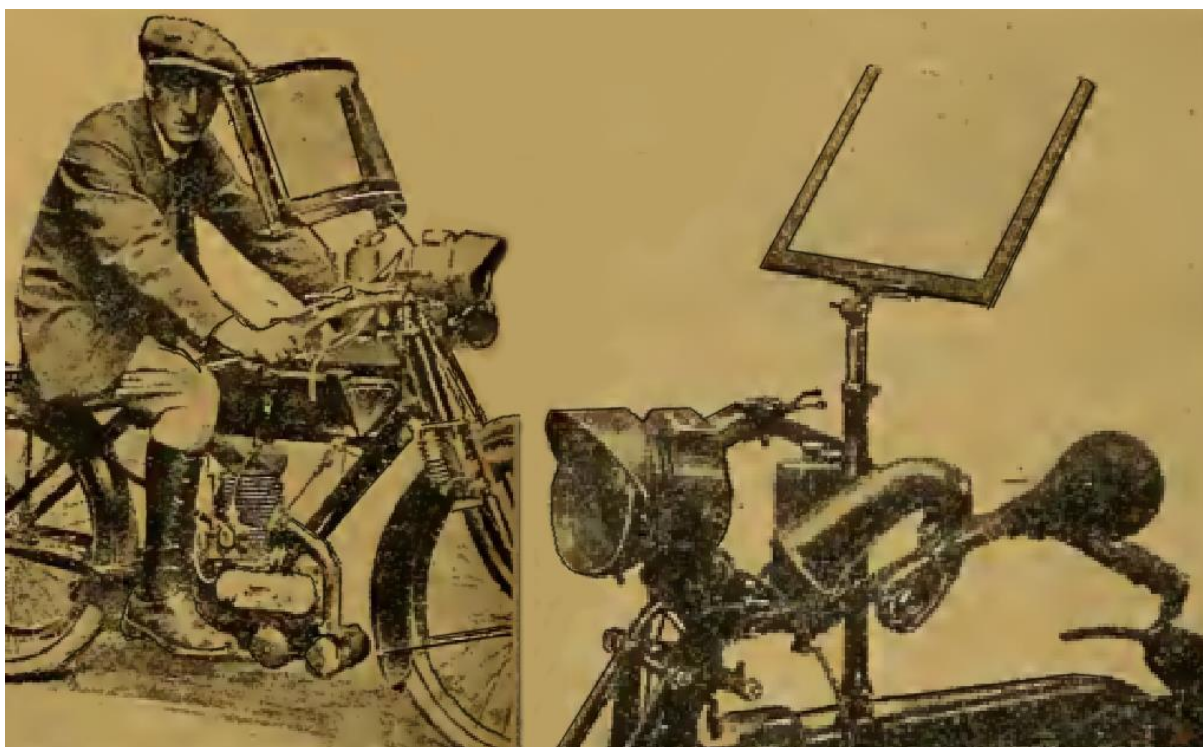
“SIR,—I WAS A WITNESS RECENTLY of a remarkable instance of how a motor cycle and sidecar were of invaluable assistance to a heavily-loaded car in distress. A brand new 6hp AJS combination was descending Kirkstone Pass towards Patterdale when it was overtaken by a Ford car—seven up—out of control, as its brakes were ineffective. The car driver vainly endeavoured to avoid a crash with the AJS, but ran into the back of the bicycle, the near side front wheel of the Ford being between the sidecar and the cycle. With great presence of mind the cyclist maintained his position on the road, and by gradually and forcibly applying his brakes succeeded in checking the runaway, finally reducing its speed sufficiently to permit of it being run into the bank. Too much praise cannot be given to the cyclist and his machine for his courage and skill in such an emergency. Nothing would have been easier than for him to put on speed and have left the car to a certain fatal smash, as only by some miracle could such a result have been avoided. The AJS subsequently continued its journey, and when I left the scene the Ford was being made serviceable by its owner.

JDN Foreman.

IXION, AS USUAL, HAD BEEN THINKING ABOUT MOTOR CYCLING: “*The Times* correspondent states that 75% of us remain faithful to the two-wheeler, or desire to do so, when our incomes have risen far enough to lift us into the car-owning class. Oddly enough, one of our contributors submitted an article this week in which he took a precisely opposite view, holding that 75% of motor cyclists bade farewell to the two-wheeler without regret as soon as they became possessed of their first car. Personally, I am a living witness to *The Times* theory. I have owned and driven cars for years; but I am first, foremost, and by emphasis a motor cyclist. Even in winter, when roads are treacherous and the air is filled with spume or snow or carries a razor edge, I never take

out a car for a solo jaunt. Most of my acquaintance, motor cycling or otherwise, esteem me crazy on the point. I offer no defence *de gustibus non disputandum* [there's no accounting for taste]. I have never analysed my invincible preference for the motor cycle. It may be that I am mean, and hate to burn four gallons of petrol when one gallon will do. It may be that I am a coward, and realise that the narrow two-wheeler can squeeze past when the broad four-wheeler will concertina itself upon the snout of the steam roller. It may be that I am a sportsman, and love the bellowing streak up steep hills which only a motor cycle can attain. Anyhow, there it is: wherever choice is practicable, out comes the motor cycle for preference, though I grow elderly and a rowing heart does not love exposure to low temperatures for hours at a time. But for all my obstinacy I have always regarded myself as a freak, a *rara avis* [rare bird], an eccentric, in this respect. And now I have it on the authority of the Thunderer itself that I am that dullest of all created things, an insignificant sheep-like follower of the great majority. Is it so?"

A WINDSCREEN, AS SUCH, IS NO GREAT NOVELTY, but, up to the present time, solo motor cycle windscreens have not come into common use. Any device which will keep flies, dust, and rain off the rider's face and obviate the necessity of wearing goggles will be welcomed by many. Naturally, the speed man, and the rider who objects to too many accessories on a motor bicycle, will not care for these fitments, but those, who are out for comfort will invest in one and cannot fail to reap the benefits it offers. The latest of these windscreens has been placed on the market by the National Motor Company, 48, Bath Road, Edgbaston, Birmingham. The screen is held in a telescopic tube clipped to the top tube of the motor bicycle frame, and is of quite neat appearance. The rider's view is obstructed as little as possible, since there is no framework at the top. Ordinary glass is fitted, but Triplex glass, which will not splinter, can be used: side wings can also be attached."



“Left: A windscreen designed for the use of the driver. Messrs.Easting Windscreens, Ltd, intend marketing this new form very shortly. Right: A motor cycle windscreen marketed by the National Motor Co.”

“JUST AS THE END-TO-END RECORD in Great Britain was at one time recognised as the Blue Riband of road records, American motor cyclists regard their endurance runs across the American continent as their classic event. This Transcontinental record is at present held by Alan T Bedell, who in 1917 rode a four-cylinder Henderson the 3,296 miles in seven days sixteen hours sixteen minutes, which beat the record set up in 1914 by EG Baker by over three days. This year Baker made a plucky attempt to recapture the record, but failed owing to the mud encountered. This Indian rider, however, has now secured the ‘Three Flag’ record from Canada to Mexico, which in June this year was secured by HC Scherer on a Harley-Davidson flat twin. The following shows the progress of the record since 1915: August 27th 1915, EG Baker (Indian), 81hr 15min; July 20th 1917, Roy Artley (4-cyl Henderson), 72hr 25min; August 26th 1918, Wells Bennett (Excelsior), 70hr 0min; June 21st 1919, HC Scherer (Harley-Davidson), 64hr 58min; July 11th 1919, EG Baker (Indian), 59hr 47min. The first section of 137 miles between Blaine (Canada) and Seattle (USA) was covered by Baker in two hours fifty-five minutes—nearly TT average speed—and over the whole distance the speed works out at a fraction under 30mph. It was reported that the record breaker had engine trouble which delayed him for five and a half hours; this occurred, by a strange coincidence, at a town called Bakersfield.” Before long the Three Flag record was broken again: Wells Bennett completed the 1,716-mile run on an Excelsior in 53hr 28min to average just over 32mph.



“Cannonball”

Baker, who, on an Indian, secured the ‘Three Flag’ record from Canada to Mexico, a distance of 1,714 miles.”

“THE QUESTION WHETHER A RIDER should stand up or sit down when using a scooter is undecided, but it is almost certain that if the rider adopts the seated attitude the scooter will be no longer somewhat of a freak, but will develop into the smallest and lightest type of motor cycle on the road. If things happen as in the latter case, then the term ‘scooter’ will die a natural death.”

The Ballymena MCC staged a fuel consumption trial to compare imported petrol with domestically produced benzole. Six riders did two laps of a 23-mile course; awards were made to riders running nearest to a predetermined speed to ensure an even playing field. No alterations to carburettion was allowed in between laps. The result could hardly have been clearer: Dr Armstrong (Norton), petrol 96.3mpg, benzole 110.9mpg, an increase of 15.1%); W Cameron (Triumph), 91.5mpg, 124.0mpg, 35.5%; J Davis (Rex), 104.5mpg, 149.3mpg, 42.8%; W Dorman (Triumph), 124.0mpg, 149.3mpg, 20.4%; D King (James), 63.6mpg, 96.3mpg, 51.4%; RH Wright (Triumph), 93.8mpg, 116.1mpg, 23.6%. On average switching to benzole improved fuel consumption by 30%. And let it be noted, every rider reported that their bikes ran cooler and smoother on benzole. *Motor Cycle* correspondent Wharfedale carried out his own comparison using a “highly efficient TT single”. He also reported that the bike ran better on Benzole: “Running on benzole the engine never showed signs of tiring after a long day’s running, but the use petrol almost invariably resulted in a hot engine and a tendency to knock at the end of a 150 miles fast run. Consumption worked out at about 20mpg increase in favour of benzole, and, generally, the running is so much more flexible and less trying to the rider that it is almost painful to be compelled to use petrol—the unfortunate part being that in the more out of way pices, such as Wales and the Lake country, where, in an irony of fate the hills and corners abound, benzole is very seldom obtainable. If the use of home-produced fuel is to be encouraged, as it deserves to be on its merits, the

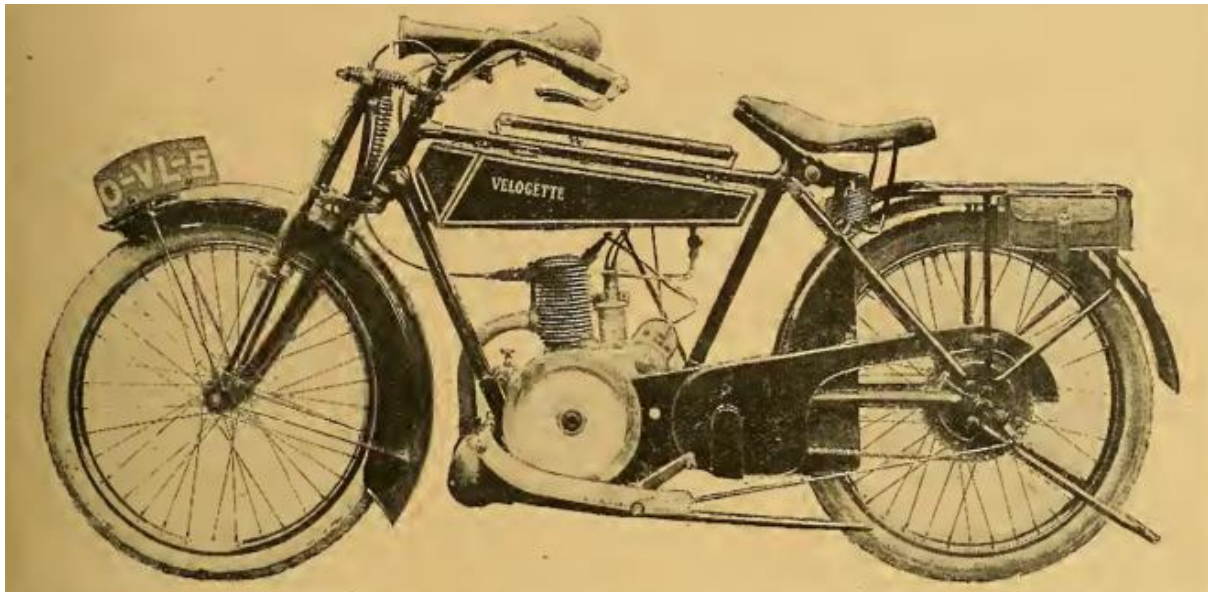
distribution should be very much more general and efficient than it is at present, and steps should also be taken to encourage its popularity amongst country garage proprietors, who often betray most surprising ignorance of its properties.”



“The ‘spirit of progress’. A benzole distillery near Wellington, one of the many which may hold the future key to the open roads, of Britain.”

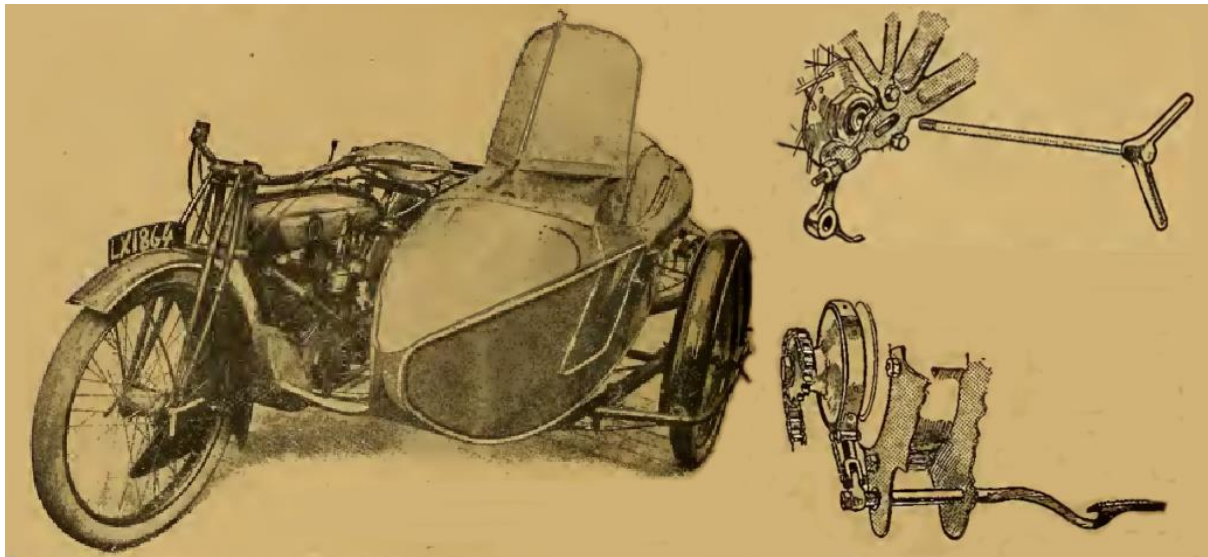
“PROBABLY OF ALL TWO-STROKES the Velocette is regarded as the most economical, and, while there are others with which over 100mpg are regularly obtained, we do not recall readers’ reports of any one make with which extraordinarily low petrol consumption has been so consistent. Some months ago we ran one of these miniatures and regularly obtained 145-150mpg on short journeys, under which conditions one naturally expects higher consumption than on longer runs. This point alone—accounted for by its mechanical lubrication—places the Velocette in a class almost by itself, and particulars of the 1920 models—which embody some of the war experience of their designers—cannot fail to interest the followers of two-stroke evolution. The three-port two-stroke is the most simple type of engine it is possible to make, and there has been a reluctance on the part of designers to depart from its extreme simplicity by introducing mechanism which naturally increases its cost. They have contended that its extreme simplicity is the keynote of its existence—that, by making it more complicated and more costly to produce, it becomes a direct competitor to the four-stroke without the four-stroke’s advantages and economy. There are others, however, who maintain that the undoubted advantages of the two-stroke make it worth while to develop it even at the expense of added mechanism and increased cost, and that, though it embodies as many parts as the four-stroke, such additions are justified, provided all-round efficiency is equal or in excess of a four-stroke engine of the same size and costing the same to produce. In this latter school of engine designers is Mr Percy Goodman, of the Velocette firm, and his faith in the two-stroke system is in no way governed by its simplicity. Although his latest design, which will be tried out in the ACU Six Days Trial, is extremely simple yet nothing has been sacrificed to gain this end. With a steel cylinder, an engine has been run with a combustion space as small as 6 to 1 ratio, but this, naturally, overheated...during these experiments, the cylinder head was red hot, and the

moving piston could be seen through the glowing metal, but the aluminium fins at the base were sufficiently cool to allow one to rest the hand upon them. Mr Goodman is now experimenting to find the compression ratio most suitable, and anticipates that he will obtain increased efficiency through being able to carry the compression to a point not hitherto attained in air-cooled engines of the two-stroke type.”



The 1920 275cc Velocette was available with a two or three-speed Velocette gearbox with optional clutch and kickstart, CAV magneto and Brampton forks.

“SOME UNUSUAL EVIDENCE WAS GIVEN at a recent case which was heard before the Southend justices, wherein a motor cyclist was charged on various counts, including that of riding to the common danger. Apparently the defendant had been riding up and down the promenade, and when turning in the road was in some danger of colliding with the principal witness, who seemed to lose his nerve on the approach of the machine. The motor cyclist avoided the informant, who called upon him to stop, and, this being unheeded, witness made efforts to catch him with his walking stick. Being unable to do so, on another occasion he revisited the spot with the avowed intention of making a further attempt to seize the rider, and when the latter approached, witness, to use his own words, ‘made a grab at him’. Again failing, he complained to the police, and, despite the fact that the other witnesses estimated the motor cyclist’s speed at about 10mph, against his allegation of ‘40 to 45mph and in his own mind faster’ (whatever that may mean!), the defendant was convicted and fined £10 on the charge of driving to the common danger. The seriousness of the case, as far as the motoring public is concerned, lies in the fact that throughout the proceedings there was no condemnation of the witness’s attempt to catch a rider who had in no way injured him, nor reprimand for his second visit to the spot with the preconceived plan of waylaying and seizing the man. Furthermore, when cross-examined as to his knowledge that his actions might easily have resulted in throwing and causing the death of the motor cyclist, he cheerfully admitted that to have effected this would have given him great pleasure.”



Wartime French seaplane manufacturer GL went onto the motor cycle business with a combo featuring a JAP twin engine, three-speed Sturmey Archer gearbox and Amal carb. All three wheels were interchangeable and quickly detachable thanks to integral tommy bars; “the rider has a very powerful means of stopping in the internal expanding band brake in the rear hub.”

“THE ACU WISHES TO REMIND ENTRANTS in the forthcoming Six Days event that no motor cycles having any part of German, Austrian, Bulgarian, or Turkish origin or manufacture will be eligible to compete. This also applies to any open competition promoted by the Union, except those of international character. Machines or parts made previous to August, 1914, are not included in this ruling.”



German clubmen wasted no time getting back on the road, witness this massed-start road race.

“ACCORDING TO A REPORT FROM THE AA, tourists have recently experienced trouble in obtaining fuel in various parts of the country...Several motorists are hung up in Scotland, and all travelling over the border should carry supplies to ensure their return to the North of England.”

“SIR,—I WOULD BE GLAD if you would insert my experience of a speed wobble I had the other day. I was trying a new Rudge-Multi I had never ridden before, and was doing about 60 or 65mph, as I had full throttle and a good wind behind me on a flat road, or, if anything, a slight downward slope, with a top gear ratio of $3\frac{1}{2}$ to 1. As soon as I felt the wobble I shut the throttle, and used all my will power to hold the machine straight, but the wobble increased until I had gone another hundred yards down the road and got into some thick dust at the side, when the front wheel skidded, and I was precipitated on to the road. I should be very glad to hear a good theory on the cause of speed wobble, and the best means to overcome it. I might mention I did not attempt to use brakes to pull myself up, but just shut the throttle and hung on.

GES, Sheffield.”

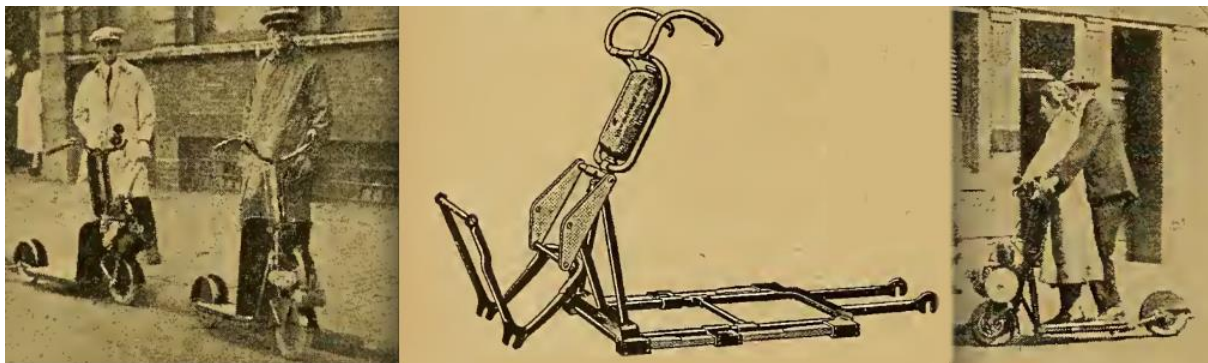


“Motor cycle testers: Competition men in embryo—an every-day scene at the Triumph Works.”

“AS I OFTEN GRUMBLE, IXION REMARKED, “I am bound to raise my hat to the trade when I find they have genuinely floored an awkward antagonist. The drawbacks of belt drive, like the quality of Government ale, have always been obvious. When a few daring makers began to coquet with the all-chain drive, especially upon single-cylinder machines, I felt dubious. For years we had been accustomed to ride in sublime oblivion of our transmission for perhaps 75% of our mileage. When we changed over to the chain, we certainly bade farewell to such heart-breaking interludes as broken fasteners or chronic belt-slip implied. On the other hand, the snatchy drive of the early chains made us perennially conscious of our transmission, as thudding vibrations had always made us conscious of single-cylinder engines. Only with the engine running fairly fast on a low gear ratio under light load was the early chain drive at all comparable to the belt. This week I have been driving a high-compression single-cylinder mount with all-chain drive. I say deliberately that its drive is as smooth as the best belt, well run in and perfectly adjusted. Even if I make the engine baulk and conk on the pick-up, after a fierce corner or on the foothills, I remain unconscious of the fact that I have a rigid drive beneath me. This is very real progress...I must now eat my own words of long ago, and admit that the function of the belt is just about fulfilled. Spring drives and cush hubs are reaching a miraculous efficiency.

SHOULD THE NEW BREED OF MOTOR SCOOTERS have seats? To prove the practicality of the stand-up Autoglider works manager J Skinner rode one from Autoglide's Birmingham factory to The Motor Cycle HQ in Tudoe Street, London. “Mr Skinner's task was to demonstrate the possibility of a rider covering 100 miles without undue fatigue and so prove the redundancy of the saddle...An early demonstration model, with over 3,000 miles to its credit, was taken along so that any of the pressmen, who followed in [Autoglide designer] Mr Townsend's car could sample and delights of autogliding.”

Powered by a 2¾hp Union two-stroke engine, the Autoglide could do 35mph; fuel consumption was almost 120mpg. “Mr Skinner, who had ‘glided’ the whole distance from Birmingham, was remarkably fresh and fit, and, despite his long standing, protested that he was not tired. It is a fact that, throughout the whole run, he had experienced no physical inconvenience other than that caused by lack of goggles. His miniature mount ran faultlessly throughout, without any mechanical stop...the management was found to be perfectly simple, steering and steadiness at speed being quite as good as experienced on a solo motor cycle...Mr. Townsend can be congratulated upon having made the most convincing demonstration of a scooter up to date.”



“The two Townsend Autogliders waiting to commence their journey from Birmingham to London. Showing the springing and general design of the Autoglider frame. Initiating a lady in the art of ‘autogliding’,”

“MANUFACTURERS SAY IT IS VERY DIFFICULT to stop profiteering in new motor cycles. They cannot control second-hand prices of machines, which have been turned into ‘second-hand’ after an hour’s running on the road, and it is the price of these machines that sets the standard.”

“THE EALING & DMCC HELD A PETROL consumption test recently, when some remarkable figures were credited to the winners. Since each machine had a graduated glass tube on the tank, designed by Dr Low, the performances should admit of no doubt. The distance traversed, however, was too short to enable figures to be given, which form a real guide to the comparative consumption of various machines. The star performance of the day was credited to a Wooler flat twin, although rated at only 2¾hp, is extremely efficient, and by skilful designing of the inlet pipe, etc, blow-back is very well prevented and great economy obtained. Some of the best figures were: Mr Chidley (2¾hp Wooler), 311mpg; Mr Douglas (3½hp Sunbeam sc), 162mpg; Mr Hudson (4hp Triumph), 146mpg.”

“SIR,—WITH REFERENCE TO THE EALING AND DISTRICT MCC’s Petrol Consumption Trial, in which a 2¾hp Wooler motor cycle is reputed to have done 311mpg, the method by which this was measured gives so much scope for inaccuracy that the record is of no practical value whatever. The carburetter was flooded before the trial but not

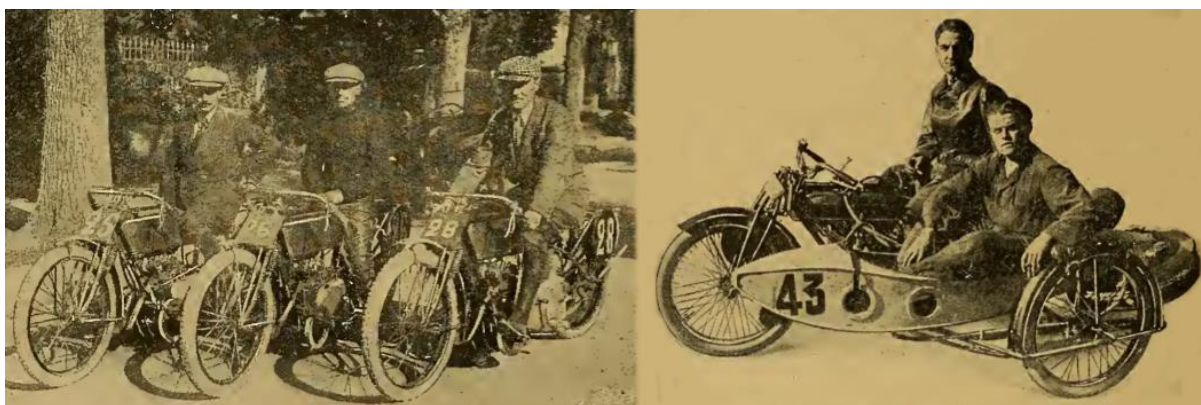
afterwards, and over the short course used, 880 yards, the petrol contained between the flooded and normal working levels would run the machine anything from 25% to 50% of the total distance, and would not be counted in the final consumption. In fact, with a large enough float chamber, one might show no consumption of petrol at all over a half-mile run. My own machine, a 4hp Triumph, in a further trial in which the carburetter was not flooded at all, gave a consumption of about 107mpg as against 145mpg in the club trial, so that instead of the accuracy within 3% claimed for the apparatus used, 30% would seem nearer the mark.

FA Hudson, MA, AMICE.

SIR,—UPON FIRST READING THE LETTER from your correspondent Mr Hudson, I thought I would reply in detail. I think, however, that I can explain the matter simply to him and quite briefly. When a carburetter is flooded and a few minutes allowed to elapse whilst the machine is wheeled, the results of flooding disappear. To obtain easy starting it is of no use to flood a carburetter long before it is required. The petrol is then in a state of equilibrium, and excess which overflows the jet has dripped out and evaporated. If the level in a tube feeding the float chamber is taken and found quite stationary before starting the test, and the level is allowed to become stationary after the test, it is obvious that the conditions are the same, as the float chamber must have filled itself from the tube to the same level. The engine suction cannot suck the float chamber empty without the testing feed tube level dropping, and this level becomes quite stationary after each test. Mr Hudson's suggestion that a large float chamber would enable no consumption of petrol to be obtained on a half-mile run is ludicrous because the float chamber is kept at the same level before and after by the petrol running in from the tube. Surely Mr FA Hudson, AMICE, is aware that consumption varies continually to an enormous extent, and that to obtain very low consumption over short distances where very small power is being used is not unusual in a well-designed machine. The 40-50hp Rolls-Royce car which did twenty-four odd miles per gallon, with a weight of about two tons and over hilly roads for a long distance and not slowly, is far more remarkable than almost anything I have experienced. The results were officially observed by the Royal Automobile Club, and possibly Mr Hudson might like to take the matter up with them. Your correspondent was present all through the test, actually drove me to the spot and converted the figures into mpg for me later in the afternoon without a word upon the subject. He possibly finds it more interesting, for some strange reason, to wait until he reaches home, and then write to John—I mean The Motor Cycle, about it.

AM Low (Major, RAF).

“DURING A RECENT SUNDAY AN RAC guide at Kenilworth took a census of motor vehicles passing through that town, and his figures show the popularity of the motor cycle over cars in a very marked manner: Buses, 134; cars, 144; solos, 142; sidecars, 157.”



The Blue 'Un described The Circuit de l'Eure as "the nearest French approach to our Tourist Trophy Race". There were classes for solos up to 250, 350 and 500cc and outfits up to 750 and 1,000cc over a 223-mile hilly course based on Vernon. Peugeot scored a hat-trick in the 500cc class, fielding four-valve ohv transverse vertical twins ridden by Messrs Péan, Perrin and Desvaux while (right) M Huret rode an MAG-engined combo to victory in the 750cc sidecar class, ahead of another GL and a Rover.



Milland took 350cc class honours in the Circuite de L'Eure aboard a Motosacoche.

FROM IXION: "I RECOUNTED THE OTHER DAY how, after two years on a clockwise throttle lever, I obtained a new mount with an anti-clockwise throttle and crashed on a vertical bank in consequence. This week I have to report a variant of the same nuisance. I was riding another strange machine, on which the positions of the brake and clutch pedals were the reverse of what I am accustomed to. Naturally enough, in the first emergency, I stood on the clutch pedal instead of braking hard, and escaped catastrophe by the width of a whisker. Somewhere in the back ground there is a trade society whose main activity of late has consisted in proclaiming trials. I suggest if would

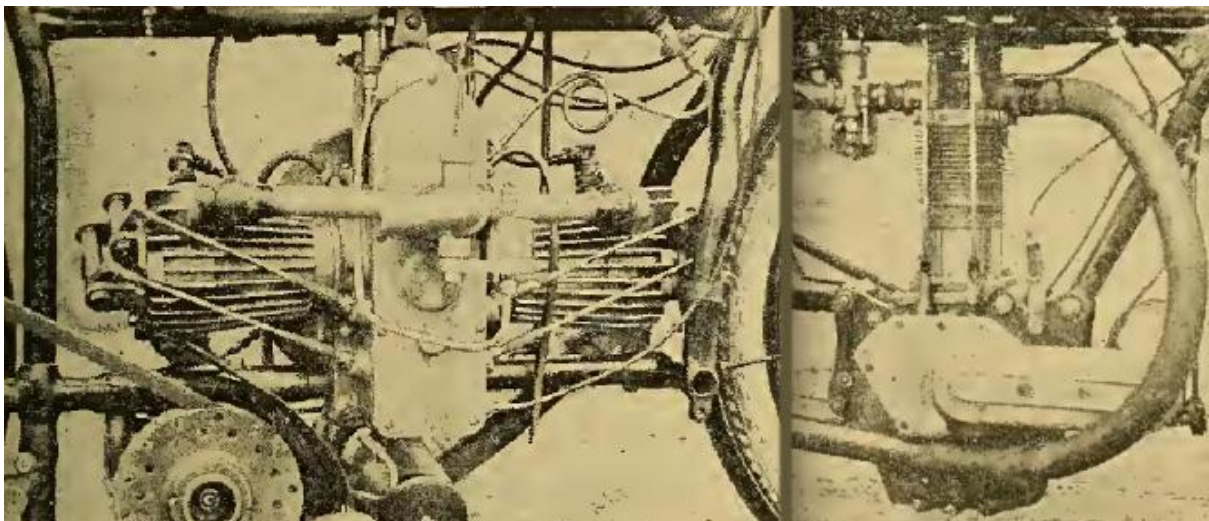
be quite as usefully employed in arranging for all throttle levers to open in the same direction And all brake pedals to be on the same side of the machine.”



AJS and Douglas outfits at the start of a rainswept speed trial at Weston-super-Mare. Despite terrible conditions 137 stalwarts competed in 17 classes, from solos under 250cc (a walkover for the only entrant, WA Jacobs on a 1½hp Singer) to unlimited outfits



“SL Bailey (350cc Douglas, on left) and B Houlding (989cc Harley-Davidson), both winners in their respective sidecar classes at the Weston-super-Mare Speed Trials.”

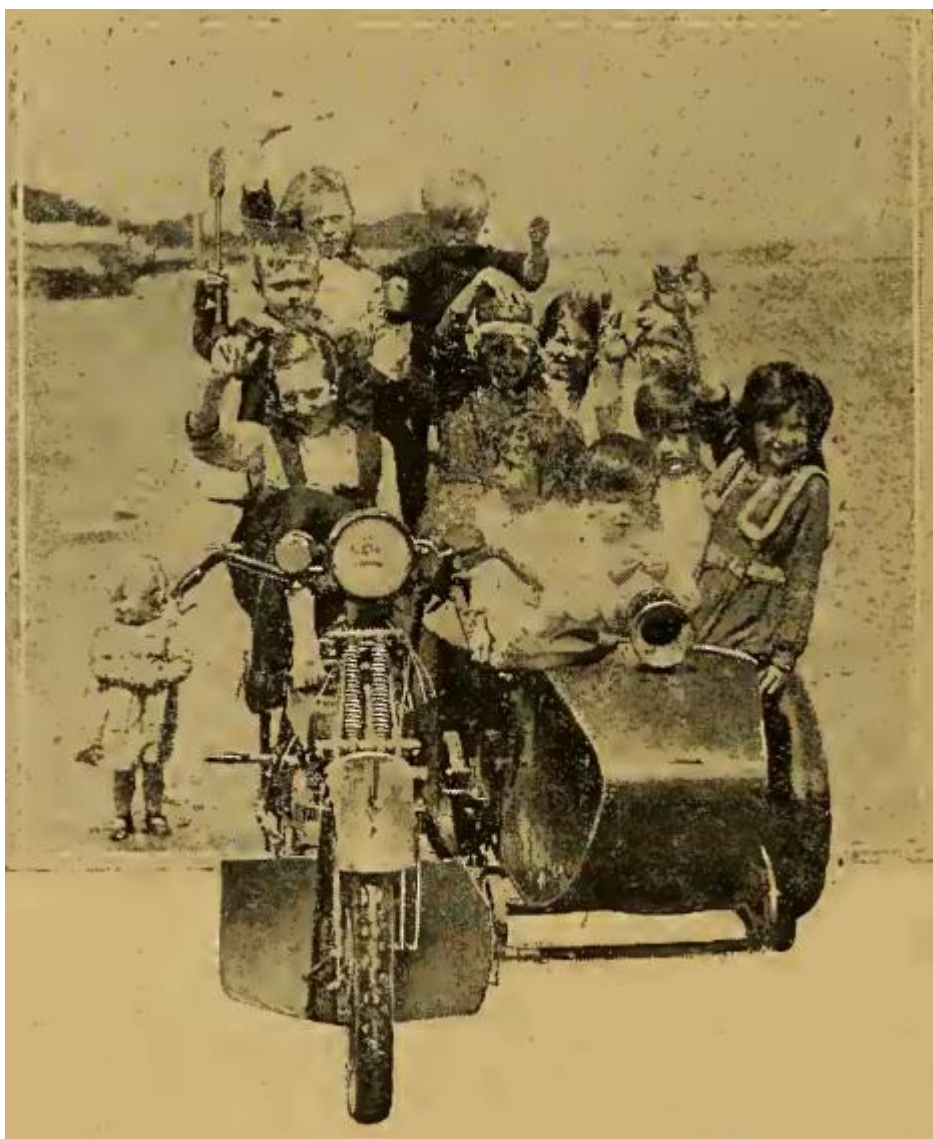


“The racing Douglas engine of FG Ball’s machine, the special overhead valve gear being

immediately noticeable. The overhead valve Norton engine fitted to a private owner's machine at Weston."

SIR,—WE ARE MUCH INTERESTED in the illustration of a Norton engine with overhead valves ridden by a private owner at Weston-super-Mare. Although we commenced experiments with this type of engine something like fifteen years or more ago, we are not at present supplying an overhead-valved engine, the one in question being made entirely upon the owner's initiative, and by himself. We can congratulate him upon a very workmanlike and sound job. We mention this, as, from our experience in the past, any reference to an alteration of design in your pages has caused us to be inundated with enquiries, and many of the writers take it as a personal slight if we are unable to supply. We might here mention that never have we made a departure from our standard engine in the shape of special cams, cylinders, or such like for competition purposes, machines always being to catalogue specification.

Norton Motors, Ltd.



“A 6hp Enfield’s happy load of ‘sea babies’ enjoying the sidecar on the Merrion Sands, Dublin.”

FROM ITS INAUGURATION 1904, WHEN *The Motor Cycle* offered a 50 guinea cup, until 1914, a growing number of clubs competed for for the MCC Team Trial. Entry peaked at 41 teams in 1913, when enthusiasts from 11 clubs rode more than 200 miles to the start. With war looming the entry fell to 31 clubs in 1914 and with the club scene coming back to life after the war the organisers were pleased to see 15 teams at the start. The rules give a flavour of the event: “Each team shall consist of six riders, three of whom shall drive solo and three passenger machines, such as tricar, sidecar, or three-wheeled cycle car. A passenger must be carried. The joint weight of passenger and driver shall not be less than 20 stone. A passenger shall not leave his or her seat during any part of the competition, excepting at the tea halt, and shall not assist the driver in any way whatsoever. Pedalling or assisting with the feet for the purpose of propulsion shall count as a stop...The competition shall consist of a non-stop course to be covered three times. Total distance, 100 miles...A competitor covering each of the three circuits at

20mph will gain the maximum number of marks...Sufficient fuel and oil must be carried for the whole of the trial.



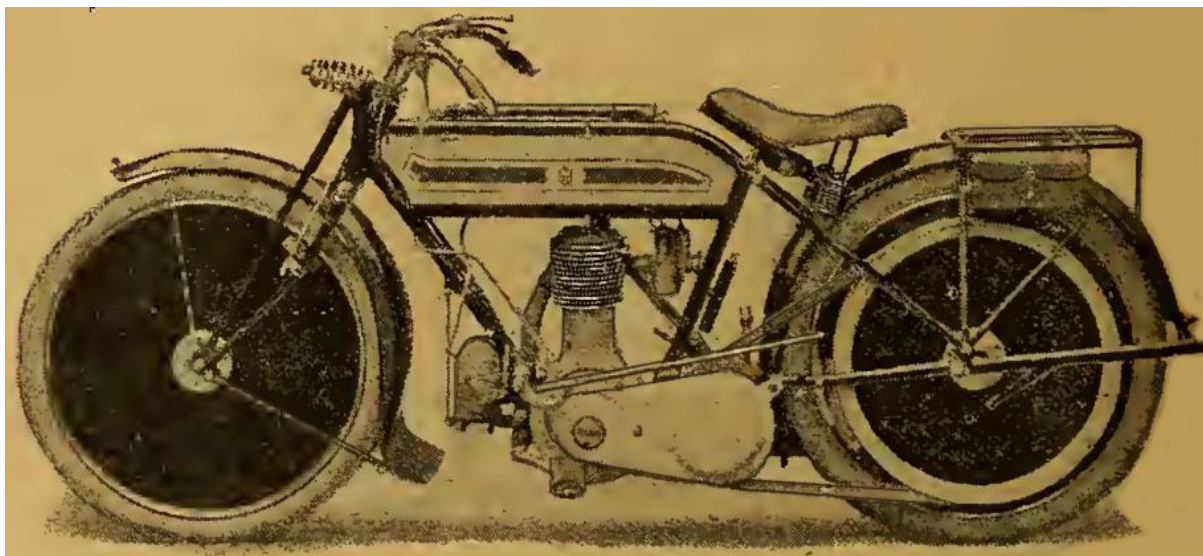
“The Coventry team, winners of The Motor Cycle Challenge Cup for the fifth time.”

Competitors may replenish from a metal receptacle carried by them, provided such replenishment is effected by the driver while the machine is in motion...The number of miles accomplished by each rider of each team without stoppage, other than stoppages due to exigencies of traffic, will be added together, and the team scoring the highest mileage thus arrived at shall be the winner, but in the event of more than one team making a full score in mileage the award will be given to the team making the best performance in the consistent driving test...A consistent driving test will be held on a hill, which will be ascended on each circuit during the trial. It will be divided into two sections, of which the first part must be climbed at an average speed of not more than 10mph, and the second part at an average speed of not less than 15mph. The times taken by a competitor will be noted on two occasions, and the team of riders who most closely repeat their performance of the first ascent on the second occasion will be adjudged to be the winners, in the event of more than one team making a non-stop run...The judges shall be three in number, one nominated by the donors [*The Motor Cycle*], one by the Motor Cycling Club, and one by the Auto Cycle Union. The judges' decision shall be absolute, and without appeal. Any organised assistance will disqualify the whole team.” And here's a tester of the event: “Beautiful weather and a really sporting course helped to render the team trial on Saturday last a splendid success...The six Scotts of the Ilkley MCC, all fitted with two-gallon petrol cans on the carriers connected up to the main



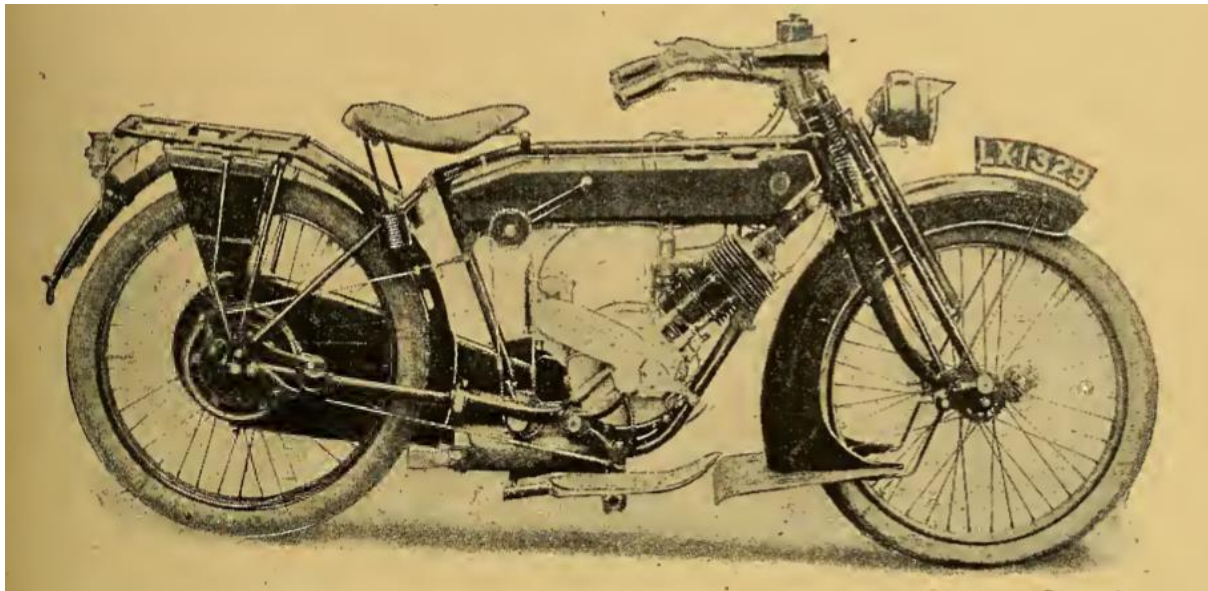
“The Ilkley team, the members of which all rode Scott s. They secured second place.”

tanks, had twin lubricators to the separate halves of the crank case...Longfield, the well-known pre-war Scott exponent, [was] acting as observer, since wounds suffered in the war prevent him from handling a motor bicycle...In practically every case the teams were most carefully selected and contained first-class riders, but, owing to the severity of the course, and the activity of the puncture fiend, casualties were exceedingly heavy...The course was of quite a different nature from those previously selected for this event, being more of the nature of an ACU one-day trial route. It was a course which was ideal for finding a winner, and Mr FT Bidlake, the doyen timekeeper, deserves our heartiest congratulations on choosing so suitable a route...The route was most efficiently arrowed, and all important turnings were guarded by marshals. Only at one point was there any difficulty, and this was a mile or two above the summit of Aston Hill, where an arrow had been turned, apparently by some evilly disposed small boy, on the second circuit...The circuit described was thirty-two and a half miles in length, which, covered three times, made a total of ninety-seven and a half miles. It traversed beautiful country, and was a most efficient test...the Coventry & Warwickshire MCC was the only one to finish with a complete team. Both this club and the MCC are now in the running for the winning of the cup outright, as both have now won the trophy on two occasions...The Ilkley riders, generally referred to as the Scott team, put up a fine show. Earnest preparations had been made for a win, and it was only a sooted plug which spoilt the team's 100% record. Second place is not to be despised, however...The MCC are to be congratulated upon stiffening the conditions for this club championship event. Weeding out the riders by a difficult course is far better and more sporting than timing to split seconds over an easy route...Official results of the MCC Team Trial: 1, Coventry & Warwickshire MC, each competitor in which gets the MCC gold medal. This was the only team to finish complete. 2, Ilkley MC&LCC; 3, MCC; 4, Woolwich, Plumstead & DMCC; 5, Sheffield & Hallamshire MCC; 6, Essex MCC; 7, Liverpool MC; 8, Camberley & DMCC; 9, South Birmingham MCC; 10, Public Schools MCC; 11, Ealing & DMCC; 12, Middlesex MCC; 13, Eastbourne & DMCC.



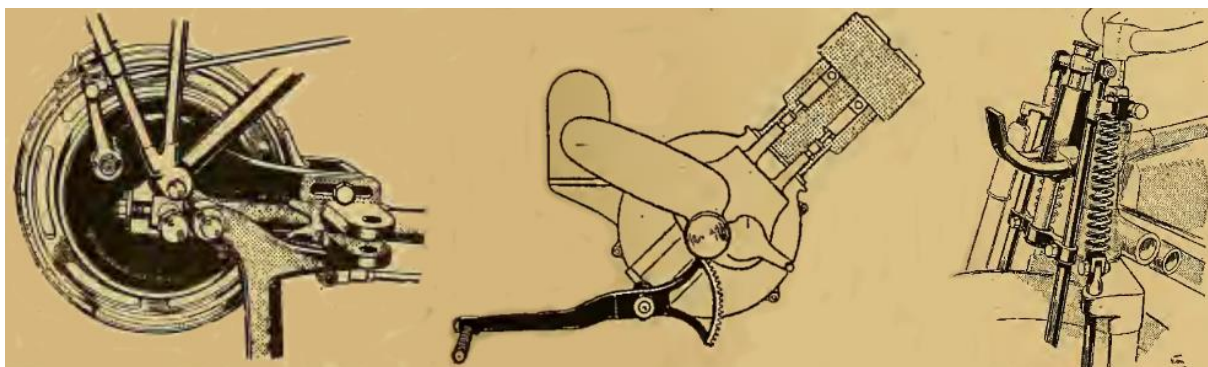
“There is no doubt that disc wheels, or wheel discs, to be more correct, are increasing in popularity, and although opinion, at present, may be divided as to whether they render a machine’s appearance clumsy or smart, approval on the score of cleanliness is apparently fairly general...A smart solo Triumph fitted with ‘Ace’ disc wheels.”

“ONE OF THE MOST SUCCESSFUL MOTOR CYCLES with the British Army at the Font was the P&M, which did wonderful service in the hands of the RAF despatch riders from 1914 onwards. We have often spoken of the war as the most wonderful reliability trial which ever took place; in it the P&M was a prominent and successful competitor, and Messrs Phelon & Moore have learned much that was of value to them in the five strenuous years during which it lasted...The latest 3½hp model is fitted with larger tyres, and has wider and more efficient mudguards, while another innovation is to be found in the brakes. There are two brakes, one internal expanding, and the other external contracting, both in the rear wheel, and of these the external brake is fitted on to a short spoked drum, and is controlled by a pedal



“The 1920 P&M, to which several improvements have been made. Entirely newly-designed forks and brakes are to be fitted on next year’s model.”

actuated by the rider’s heel on the left side of the motor bicycle. The internal expanding brake is controlled by a hand lever working on a ratchet quadrant, also on the near side of the machine. This is a very valuable fitment, as when a sidecar is fitted it enables the driver to secure his machine, no matter how severe may be the gradient on which it is desired to stop. To release the hand brake it is only necessary to slide forward the aluminium handle...The spring forks have been entirely redesigned, and, instead of the central enclosed springs in compression, two separate coil springs in tension are provided. The fork is also much stronger, and all moving parts are provided with grease cups of ample size...The sidecar lugs are built into the frame, and rear lugs are placed on both sides of the chain stays, so that the sidecar may be fitted on either side of the motor cycle. Yet another novelty is the kick starter, which has been entirely redesigned.”



“Internal expanding and external contracting brakes on the rear wheel. The starter pedal, which can now truly be described as a ‘kick’ starter, is placed further back; the long leverage will be noted. The new spring fork suspension of the 1920 P&M.”

“MOTORPHOBIA IN SWITZERLAND: The use of motor cycles is prohibited in Geneva on Sundays and fete days from September 1st to October 31st between the hours of 1 and

6 pm. From 6am to 1pm the speed of all motor vehicles is restricted to 12mph in the whole of the canton of Geneva. The police and military owners may continue to use their motor vehicles without restriction.”

TWO MARQUES WERE LAUNCHED IN THE ISLE OF MAN. The Peters sported cantilever rear suspension and an in-house 347cc ‘square’ engine forming part of the frame. Production was transferred to London, where it survived until 1927. The Aurora, with its proprietary 318cc Dalm two-stroke, lasted barely two years and only a few were made. But its builder, Graham Oates, rode in the ISDT and TT and made the first coast-to-coast run across Canada.



Graham Oates, designer of the Aurora, made an epic trans-Canadian run.

“THE DAILY AND EVENING PAPERS are remorseless in pointing out, almost every week, that Leicestershire possesses some of the vilest roads in the Kingdom.”

AN EX-PAT WROTE: “PORTUGAL is wonderfully mountainous. Every day I ride over roads that make the average club trial look like an afternoon run round Piccadilly in a ‘flivver’...motor cycles are extremely popular here, and were there sufficient machines available the existing number would be doubled and trebled...Practically all the machines here are American big twins (Harley-Davidson, Excelsior, Indian, and Reading Standard in order of precedence). The sidecar is so popular that solo machines are comparatively rare, this being due, I think, to the excessive weight of US machines for

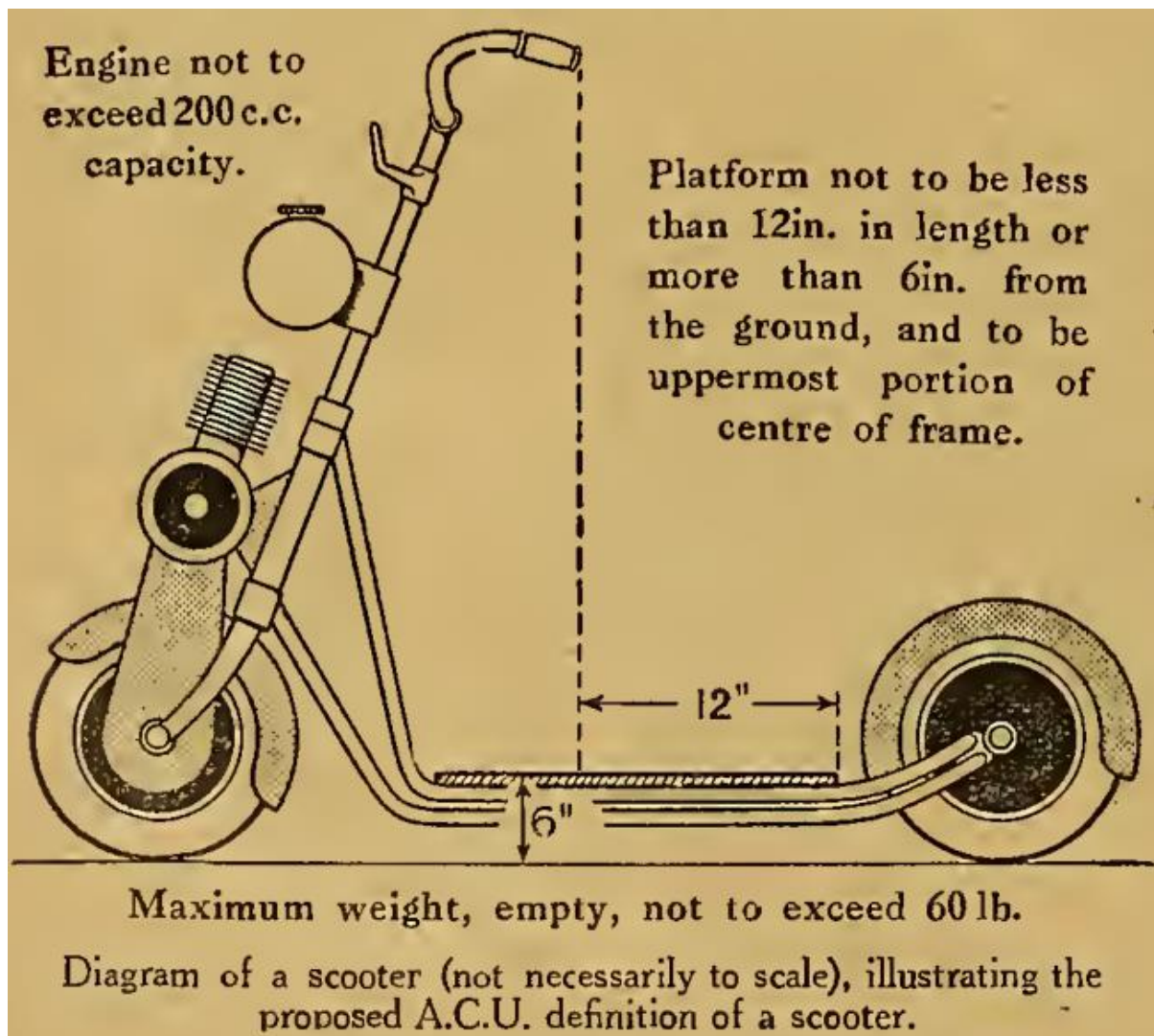
solo work and the absence of medium weight solo machines...I consider that there is a tremendous opportunity for British makers if represented by live agents."

"AT LAST SCOOTERS ARE BEING TURNED OUT of the different factories devoted to these new-old velocipedes. Several agents have received machines for demonstration purposes. It will be some weeks yet before they appear in quantities...Two of the 'stand-up' scooter merchants have decided to offer a seat 'as an alternative', in deference to the wishes of clients. The original ABC, it will be recalled, had no seat, and when it acquired one its popularity went up 75%. Notwithstanding, two scooter designers in particular champion the saddle-less machine, contending that a machine with a seat must have an extended wheelbase, besides which the saddle interferes with starting and mounting."



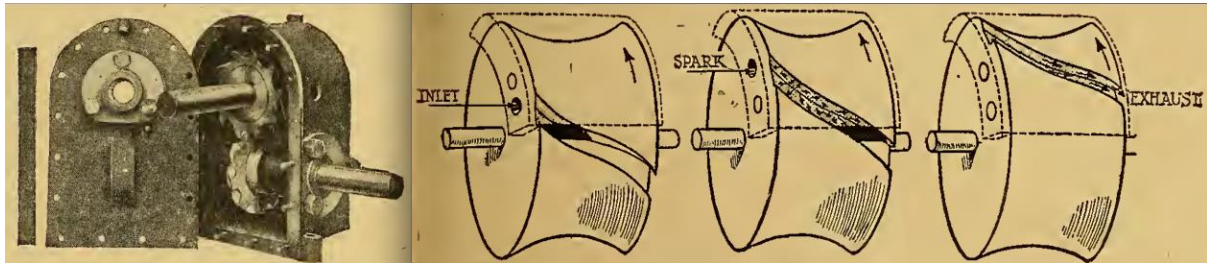
"At

the recent hill-climb held by the Southend-on-Sea & DMCC a scooter class was included, the fastest time being made by Miss Keddie (on left) on an Auto-glider. Miss Cummings (on the right) is seen mounted on an ABC Mota-scoota."



"OWING TO THE CONSTANCY of their torque and absence of vibration, turbine engines will always appeal strongly to motor cyclists, and, among turbines, the engine invented by Captain JM Sanders, Woodside House, Canford Park, Westbury-on-Trym, is a very notable example...the engine consists of two elements of skew gear, one of which is termed the "cylinder," being made after the pattern of the Lanchester worm with a hollowed surface, the second or "piston" wheel being so narrow that its grooves appear more like the teeth of a chain sprocket than part of a worm gear. As the teeth of the piston wheel pass along the grooves of the cylinder wheel, compressed fuel enters behind them, and this is fired as the tooth advances. There will then be as many slight impulses per revolution as there are grooves in the cylinder wheel—in this case ten. The "piston" wheel revolves idly, but it will be readily understood that one wheel cannot revolve without the other. The plug which gives the mixture emits a constant stream of sparks...It will be noticed that combustion and exhaust only are provided for in the turbine, but, as the four-cycle principle is employed, the induction and compression are arranged outside the apparatus, a reciprocating compressor performing the other functions of the cycle, induction, and compression. Later, however, a third wheel may

be included in the train in order to provide for the complete carrying out of the phases of the Otto or four-stroke cycle within the turbine itself. Under test, the experimental-engine- ran on -com- pressed air at a speed of 1,000rpm, but, when the air was passed through a carburetter, mixws qith petrol gas and fired, the revs immediately jumped up to 4,000rom, which means 40,000 impulses per minute...it is calculated that an experimental model which, having a 5½in cylinder wheel and two piston wheels, should give 36hp at a speed of 10,000rpm.”



“40,000 impulses a minute is the speed attained by this experimental model of the Sanders turbine; its size is indicated by the 12in rule at the side. Three positions of the ‘piston’ tooth and ‘cylinder’ groove, relative to ports in the shroud at the moment of gas admission, firing, and exhaust.”

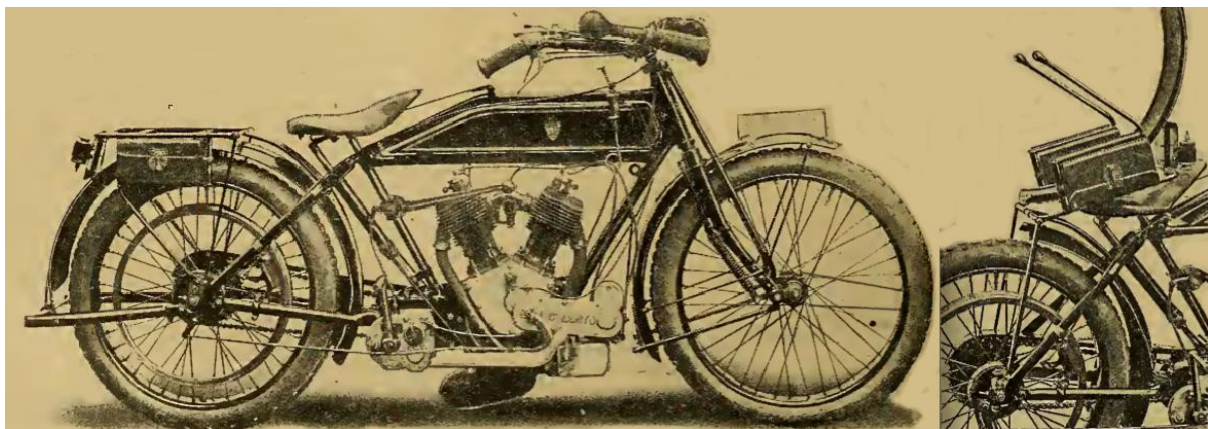
“SIR,—ON AUGUST 16TH, 1919, A NEW 1919 TRIUMPH 4hp motor cycle, index number BW2930, engine number 19613, also a suit of overalls and a few accessories, were stolen from a garage in this city by Raphel Finella, alias Harry Ray, an Italian, ex-soldier, music hall artist, and hairdresser. Age 24, height 5ft 5in, home address, 5, Little Saffron Hill, London, EC. Information is to hand that he has sold the stolen motor cycle for £80 somewhere, and was seen in Kingston-on-Thames, riding a 1914 Calthorpe-JAP motor cycle, number unknown, for which he produced a receipt showing he had purchased same for £40 at the end of August. This may attract the attention of the people who bought or sold the above-mentioned motor cycles; if so, I shall be pleased to hear from them.

Oswald Cole, Chief Constable, Oxford.”

“I AM BEHIND THE SCENES IN SOME RESPECTS,” Ixion remarked, “and, therefore, appeal to readers not to bombard a maker with letters if an expected machine is far overdue for delivery. No words of mine can describe what firms have to put up with. I confess I can see no reason why steel and iron should be of inferior quality after the vast experience which the war gave us in producing these metals; but the fact remains that a great deal of stuff has to be rejected. When we come to partly or wholly manufactured components, stampings, forgings, tubing, castings, or parts bought ready for erecting, the case is widely different, for the suppliers have changed perhaps 50% of their labour since the Armistice, and many of the new hands have to be retrained. One concern was compelled to scrap 5,000 connecting rods last week. Once can imagine what this implies when thousands of pounds have been laid out weekly for eight months in

wages, and for tools, material, and shop alterations, with never a farthing, coming in. Just when mass erection is due to begin, and perhaps £10,000 a week should commence to replenish depleted coffers, the entire process of manufacturing is again held up. On the top of these troubles, the postman daily leaves a huge mail, most of which consists of vituperative enquiries about delivery, including one from a man who has ordered through a dealer unknown to the makers, who took three machines off a sub-sub-agent for a wholesale sub-agent, so that the firm has never, so much as heard the name of either vendor or buyer. The only possible, result of incessant importunity will be to tease honest firms into sending out unsound stuff rather than put up with these continued mortifications.”

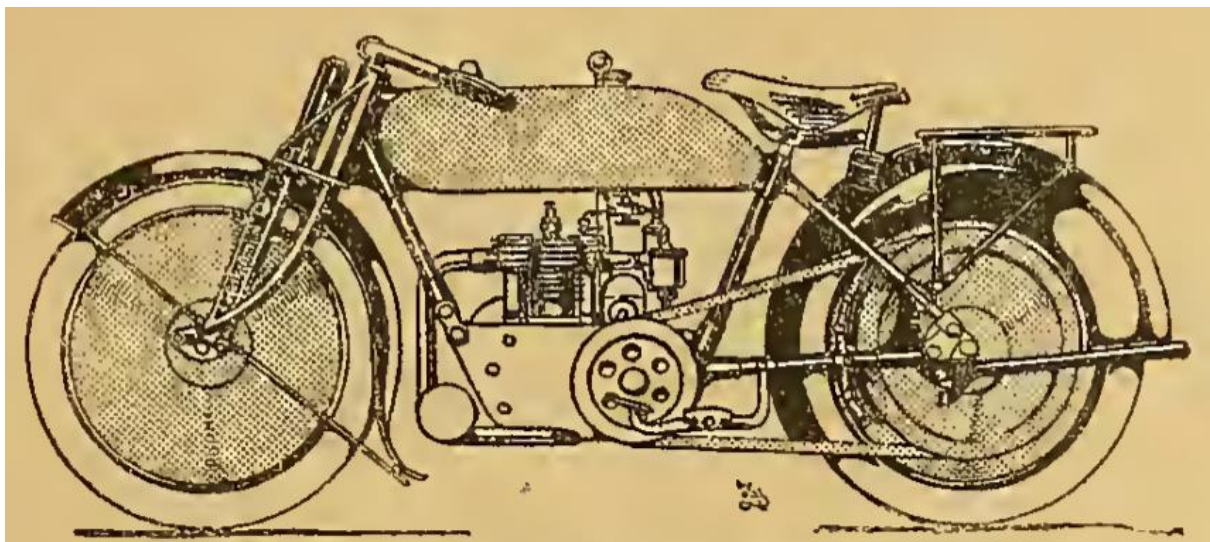
“A MOTOR CYCLE TRIAL HAS BEEN CONCLUDED to Norway from Christiania to Trondhjem and back to Christiania by the Norsk Motorcykelklub and Ooslandske Petroleumskompani. The winners received new motor cycles as prizes, viz, a BSA, an Excelsior, a Reading Standard, an Indian, and a Harley-Davidson. Is this a sign of American penetration?”




“The LMC long-stroke [79x98mm] twin, a newly-designed model fitted with an engine of 960cc capacity...A feature of the machine is the hinged rear guard and carrier to facilitate repairs to the rear tyre. No tools are necessary, to release the stays holding the unit at the fork ends. Studs are fitted which are sprung into position, when they are self-locking. The stand, too, assists in holding the hinged portion in position.”

“FRANCE, WHICH HAS ALWAYS BEEN BACKWARD in the use of motor cycles, is on the eve of a boom in these popular machines. The war is responsible for it in a very large measure, for the development of the Motor Transport Corps of the Army has initiated thousands of men to motordom, who otherwise would never have solved the mysteries of the internal combustion engine, and the introduction of the eight-hour day—another war measure—has given the workers time for sports and recreations. Undoubtedly it will be a long time before motor cycles are as plentiful in France as in England, for the Frenchman does not part with his money so readily as his ally across the Channel, but there is no doubt that the boom is coming. The peculiar thing about it is that the French manufacturers are not at all prepared for it. One firm, the Clement Co, sees so little


future in the motor cycle that it has already decided to drop the power-driven and devote itself to the push type of bicycle...On the other hand, Bleriot is about to manufacture a motor cycle, and there are rumours that De Dion Bouton, whose range already runs all the way from tractors to bicycles, is about to add a motor cycle department. The most important development, however, is the formation of a powerful company to manufacture and market the ABC machine in France. This machine is now being built near Paris by the Gnome and le Rhone Co, a world-famed firm which has grown big during the war on the manufacture of rotary air-cooled engines...The best known machines in France are Douglas, BSA, Triumph, and Rover. Others are coming, however, and hardly a day passes but one hears of additional agencies having been obtained for British motor cycles.”



“An example of French motor cycle design, the Bleriot 4hp vertical twin. The two-speed gear box is combined with the crank case. Note the neat spring frame and disc wheels.”


SOUVENEZ-VOUS DANS VOS PRIÈRES
 DE

Doux Cœur		Doux Cœur
de		de
Jésus		Marie
soyez mon		soyez mon
amour		salut



(500 j. d'ind.) (500 j. d'ind.)
Joséphine DUCHET
Victime d'une motocyclette de l'Armée Anglaise
décédée à Paris, le 27 Novembre 1919.
a l'âge de 68 ans.

Ame angélique, regrettée de tous ceux qui l'ont connue,
 chérie de ceux au milieu desquels elle a vécu.

Elle a passé en faisant le bien et sa bonté était légendaire.

Pendant 52 ans attachée à la famille BASTIER dont 3 générations la pleurent et gardent pour elle le culte le plus tendre et le plus profond.

Heureuse de mourir dans le Seigneur elle se repose de ses travaux et ses bonnes œuvres l'accompagnent.

au service de M^{me} Bastier (Apoc. XIV, 13)

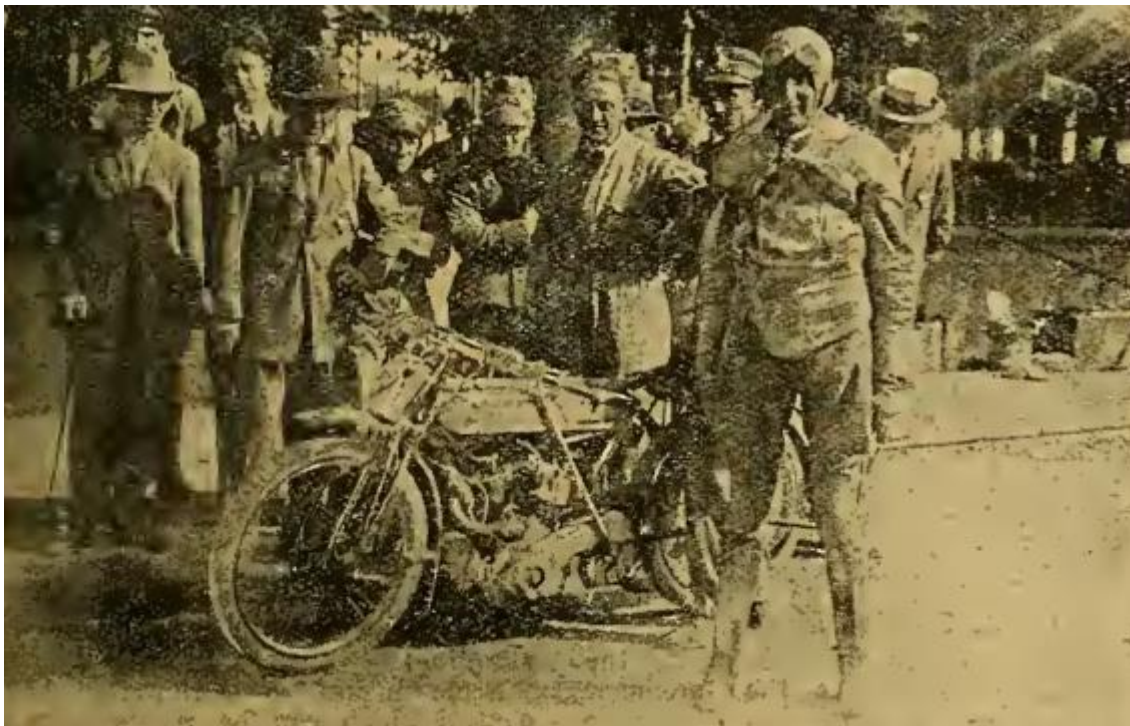
L. Gauthier. imp. St-Denis

This note

asks readers to remember Mme Joséphine Duchet in their prayers; she was hit and killed by a British Army motorcycle. One more victim of the war.

“THE ITALIAN MOTOR CYCLE TT, the most important of the numerous races held yearly in that country, took place on September 7th, after five years' suspension, the last event having taken place in 1913, before the war. The race was over the usual Cremona course, a triangle of straight, flat roads, the circuit of thirty-nine miles being covered five

times, totalling in all 195 miles. The roads were not in very good condition, being very dusty. Dogs and chickens frequently strayed on the course, causing several spills, frequently without serious consequence to the riders, but prejudicial to their chance of success. In other respects the race was well organised, and everything went well, sport being very good...There were seven starters in the 350cc class and 20 in the 500cc class. The previous holders of the title for both classes—the Maffeis brothers—were both present, and hot favourites, although both rode in the senior class this time, but on different machines. The elder Maffeis (Bianchi) was eliminated in the first lap owing to belt trouble ; and the other (riding a Motosacoche) dropped out in the second lap on account of his frame breaking, owing to the bad state of the roads, which caused many other retirements amongst the competitors...Maffeis, junior, made a very fast start, creating great enthusiasm amongst the concourse of spectators, as did Dovo, who rode a twin-cylinder Delia Ferrera, of the. four-speed, four-chain type...Three despatch riders on Sunbeams were amongst the starters...Baj Badino (Douglas), the favourite, lost much precious time on account of a rather bad fall caused by a dog...Between the third and fourth lap most of the competitors stopped for replenishments, but, contrary to British custom, no time-saving devices were employed to effect lightning refills of the tanks. In fact, most of the competitors seemed to find time to get themselves snapped by the photographer during the refilling operations.” Dovo (Della Ferrera) won the senior class at an average 55.25mph; Pozzi (Motosacoche) won the Junior at 44.85mph.



“The new record holder for the Cremona circuit: Dovo (Delia Ferrera).”

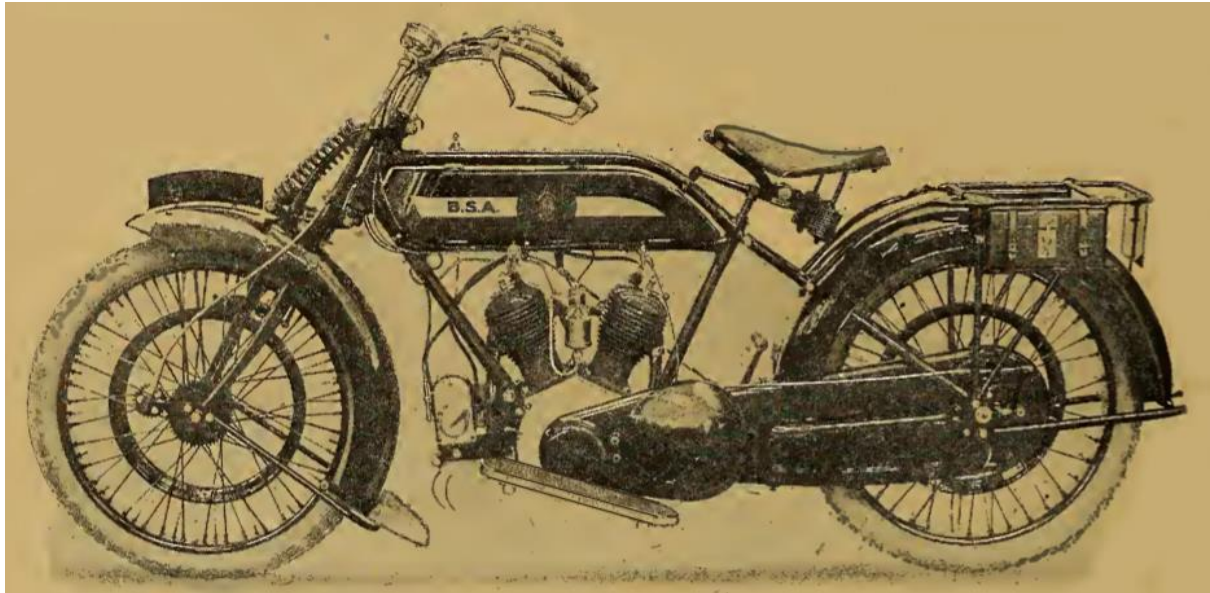
“THE INTERESTING FILM ENTITLED *Coal: Its Waste and Possibilities*, prepared by the Automobile Association in conjunction with Messrs Gaumont, in order to show how vast

quantities of home-produced motor fuel—benzole—can be extracted from coal, is now being exhibited throughout the country.”

“THE RECENT BIG SPANISH EVENT—the Campeonato de Santander was held over a course of approximately 120 miles. The result was a clean sweep in the three solo classes for British machines: 350cc class won by Ignacio de Arana (2¾hp Douglas); 500cc class won by Ignacio de Arana (2¾hp Douglas); 750cc class won by Justo Somonte (4hp Douglas). Arana’s machine was a well-used 1913 model. The first prize in the 350cc class was a silver tea service presented by HM the King of Spain.”

“THE FACT THAT THE ACU has decided to grant only twenty permits to clubs to hold open competitions in 1920 has once more brought forward the suggestion that the several clubs in some districts should amalgamate and form strong organisations worthy of their cities. So far, only the Liverpool clubs have seen the great advantages of such arrangements, and, it will be recalled, they amalgamated under the title of the Liverpool MC at the time when all clubs were undergoing reconstruction...Personally, we have always been in favour of fewer and stronger clubs, rather than a large number of weaker bodies, and we hope the officials and members of the Midland clubs will give the matter careful consideration.”

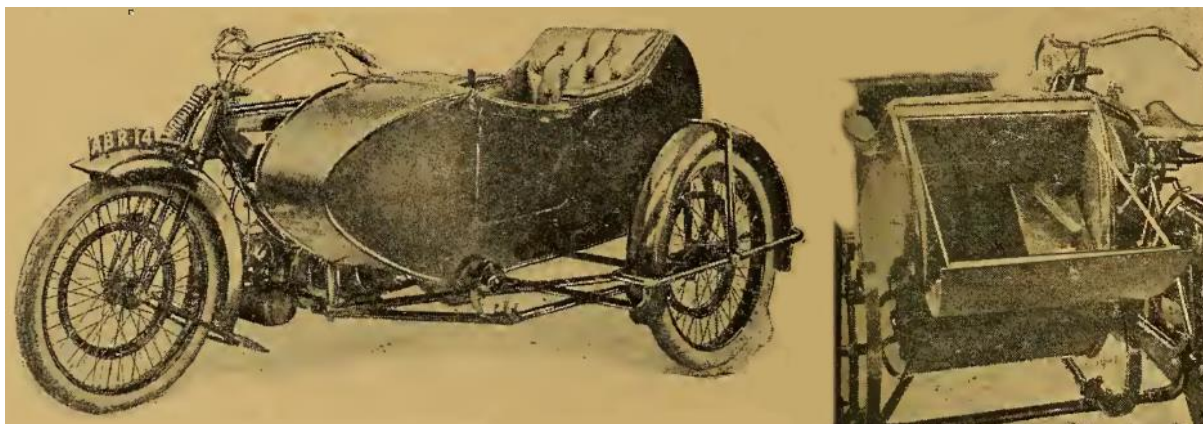
“THE PRODUCTS OF THE BIRMINGHAM SMALL ARMS CO have always been well known for their strength and sound manufacture, so that it is not surprising to find these characteristics displayed in a marked degree in their new twin-cylinder motor cycle. Hitherto the firm have confined their efforts to single-cylinders, which have gained a world-wide reputation, and their successes culminated in the capturing of the ACU Six Days Trial team prize. The twin-cylinder is, therefore, a departure from all previous models, though, as various features have been tried out for a period of nearly three years, it can- not be looked upon as an experimental or untested machine. A cursory examination gives one the idea that the design was carried out by experienced riders,



“Transmission side of the new twin BSA, illustrating the wide guards, neat chain cases, and general clean appearance.”

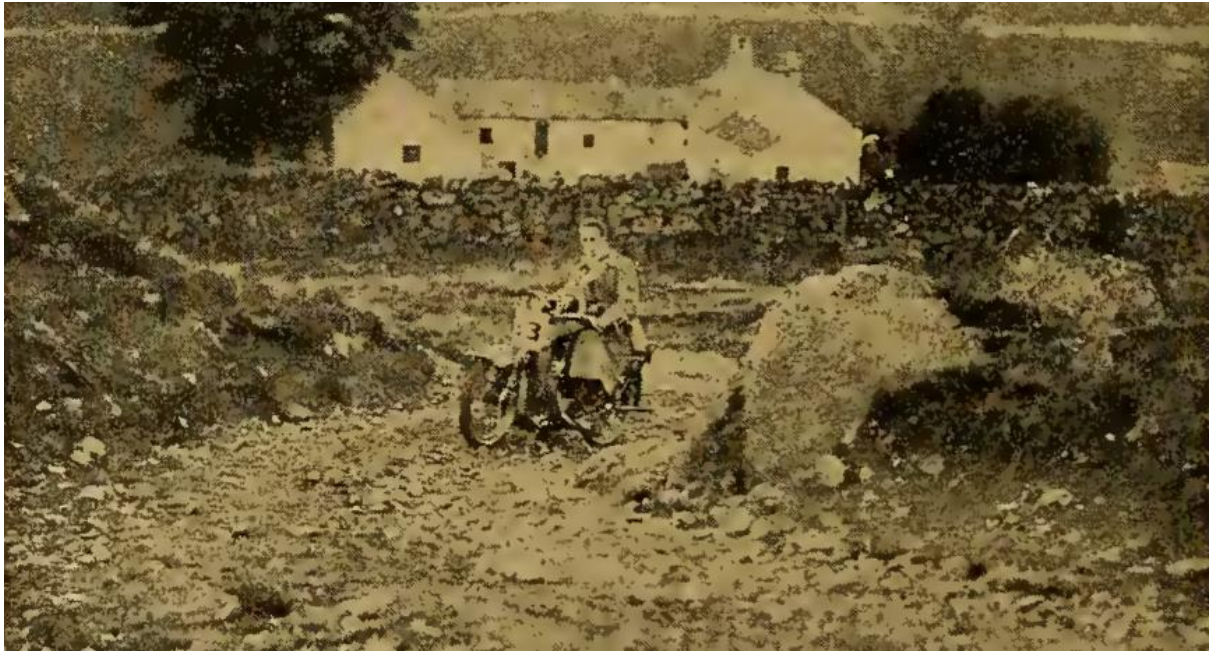
and this impression was distinctly strengthened by close inspection of detail work.” The sidevalve 770cc 50° V-twin engine featured mechanical lubrication with a hand pump “for emergencies”, fittings for an optional Lucas Magdyno and engine-sprocket cush drive. Power to the three-speed constant-mesh gearbox was transmitted via an engine-sprocket cush-drive and Ferodo-faced clutch. The kickstart was returned by an “enclosed clock spring”. Wheels were QD and interchangeable; the splines connecting the rear brake drum and sprocket to the wheel set a pattern BSA would follow for decades to come. “Both cycle and sidecar wheels are interchangeable, and for this reason a dummy rim, to suit the inverted front brake, is fitted in each case.”

Weatherproofing was helped by 8¼in mudguards over the 28x3in tyres. Sidecar lugs were integral, reflecting the big twin’s likely use: “A special sidecar has been constructed to suit the machine; the lines are pleasing, and the body is particularly roomy and well sprung, leaf springs being fitted in front as well as at the rear. Four points of attachment are provided.”



“The sidecar is exceptionally large, and is of substantial construction, embodying four-point attachment. A capacious rear locker is a feature of the new BSA sidecar.”

“NEVER WITHIN OUR LONG EXPERIENCE of North-country trials has a purely local event excited so much interest and received such ready support from all comers as the Scott sporting trial...A touch of frost and a cloudless sky greeted us on the morning of the trial. Arriving at Churchtown, just outside Bradford, we found a large number of competitors already assembled, the many interesting and attractive machines drawing a surprisingly large crowd of spectators. The first man was started dead on time, and, leaving Otley, our troubles very early commenced. Approaching Dob Park all semblance of a road speedily vanished, and one of the titbits of the day—Dob Park water-splash—was immediately encountered. A huge crowd was assembled here to see the fun, and fun it assuredly was. An observer with a red flag was posted to prevent jamming, and competitor after competitor stuck in midstream. The water was perhaps 9in in depth, the bed consisting of boulders, mostly about the size of a man’s head, and emerging from these impossible conditions one was instantly greeted by rough cobbles on a 1 in 3 gradient. A truly appalling test hill of over a mile in length followed, and included several difficult corners, while the surface consisted of sods, sand, and stones. The best idea as to the nature of the splash can be obtained from the fact that forty-one competitors [out of 55 starters], including many TT and old competition riders, failed, in so far as they lost



“Jesse Baker (3¾hp Scott) approaching an especially appalling surface concealed behind a bend.”

marks either by falling off in mid-stream, jamming among the rocks, or being compelled to dismount...Let it be clearly understood that the route presented throughout not only freak hills and water-splashes, but freak surfaces of the most difficult kind, and some miles of sheep tracks now conveyed us via Blubberhouses to Pock Stones Moor. Another water-splash at Hey Slack followed by a stunning little rise caused many to lose marks. Here twenty competitors failed completely, while only fourteen obtained full marks. The way over Pock Stones Moor consists of about six deep ruts overgrown with rushes, which obscure swamps and loose boulders, and many competitors fell during this difficult part of the run...arriving eventually at Burnsall we were greeted by a very excellent and welcome supply of sandwiches and hot coffee served in the bar room of the hotel. After leaving Burnsall a competitor collided with a car, and the next man, Capt G Walker (4hp Triumph), with the true sporting spirit infused by the Scott organisation, promptly retired in order to assist the unfortunate one...arriving at Park Rash, via Kettlewell, any number of competitors who had clean sheets hitherto now met their Waterloo. Park Rash itself is a really terrible hill, the gradient being about 1 in 4 for 200 yards with two right-angled bends, while the surface consists of loose stones on a shifting bed of more loose



“Hey Slack watersplash. The rider is H Mortimer Batten (3½hp P&M), who was one of the few who successfully negotiated the spot. On the Yorkshire moors. One of the many sections of rock-strewn track encountered in the course of the run. The rider is G Wray (4hp Triumph).”

stones. A possible track of about 8in in width exists, but once bounced off this the rider has no choice whatever of making a clean ascent. Duxbury, on a Triumph, made a good and clean climb, and was the first to arrive; W Smith (Scott) fell; ‘Tim’ Wood collided with the wall, but restarted well; Bentley Rigg (Scott) was baulked, and had much difficulty in getting under way again; H Hill (Scott) ran gallantly; W Atkinson (Triumph) konked out; as also did C Hart (P&M)...Miles of fly-crawls and river beds followed. The roads were the old pack roads of a departed age, long since deserted by man, or, if not, they remained as a last surviving relic of a once flourishing mining industry, for which these bleak heights were noted. Gates, stones, sheep, ruts, heather, and more stones, were the outstanding features, and branching to the right at Arkleside we experienced about nine miles of concentrated jolting and skidding, followed by what were assuredly the titbits of the day—the River Nidd and the Scar. The latter is a freak hill, which even surpasses Park Rash in the way of the impossible. George Wray made a wonderful ascent, though he nearly committed suicide by vanishing over the precipice at one point—a most impressive performance. Glorious weather favoured us. The event was splendidly organised owing to the unfailing energy of the Scott Motor Cycle Co, and the unstinting manner in which they ran the whole affair. **Results:** The Scott Staff Cup (best solo performance trade rider), Geoffrey Hill (4hp Triumph); The Kenington Cup (best amateur solo), JE Walker (3¼hp Scott); The Scott Challenge Trophy and Gold Medals (Amateur) for best team of three machines of the same make, Ilkley MC, (Walker, Moore, and Sellers), all on Scotts; Myers Cup and Gold Medals (best trade team of three), Scott team (Wood, Guy, and Langman); Fastest Time over Course (82min). Geoffrey Hill (Triumph).”



“The Ilkley team (JE Walker, W Moore, HW Sellers) all mounted on 3¾hp Scotts, riding in close company on a typical stretch of moorland road. They secured the amateur team prize.”



From *Motor Cycling*: “‘Unfaked’ photographs of spills taken at the psychological moment are rare. These two falls were experienced during the recent Scott trial and we are indebted to the Gaumont Film Co for permission to reproduce the photographs.”

“AFTER A LAPSE OF FIVE SEASONS the Johannesburg-Durban Handicap—the great event of the South African motor cyclists’ year—has again been held, and received enthusiastic support. The course over which the race takes place is the road (so-called) between Johannesburg and Durban, a distance of 421 miles. Although in somewhat better condition than previously, the road in many places degenerates into a mere bush track, and several competitors suffered broken frames and similar troubles. The start was made from City Deep Mine, Johannesburg, at 8am on the 24th ult, and the arrangements, carried out by the Rand MCC, were excellent; thousands of spectators witnessed the start of the forty-six competitors on their long journey. The motor cycles entered were of representative makes, and of all types, and, in consequence, a careful system of handicapping had been evolved, which proved very satisfactory. The limit man was JP Booth (2¼hp Junior Triumph), who had 4hr 43min start, the scratch man being P Lawrence (7-9hp Indian)...Wolsen (3½hp Hazlewood) had a bad fall near the start, but was able to continue. Dave Owen (3½hp Indian) retired near near Volksrust with a burst tyre, as did Carrol (4hp Bradbury). Beard, riding a 4hp Bradbury, broke his frame at Heidelberg. CH Young (4hp Triumph), when halfway, became involved in an altercation with a horse, with the result that his back forks were broken. Patching up the damage with materials obtained from some near-by iron fencing, the rider completed the course, and arrived second, averaging 36.3mph, a fine performance, under the

circumstances. Owing to the difficulty of procuring new machines, many old models were entered, one being a 1910 Bradbury, which the rider, F Nissen, successfully piloted to the conclusion, maintaining an average of 28.9mph. Despite the popularity gained by the products of other countries during the war, British motor cycles were predominantly successful in the event, five of the first six places being gained on them. Of the thirteen competitors who finished, ten were mounted on representative British mounts. Percy Flook, the winner, rode a 1915 2¾hp Douglas (3hr 18min start), and completed the course of 421 miles at an average speed of 32.5mph. Flook is a well-known rider, and represented South Africa in the 1913 TT, when he rode a Triumph. The fastest time in the race (constituting a record for the course) was made by R Blackburn (7-9hp Harley-Davidson), who averaged 36.8mph; this speed was closely approached by CH Young (4hp Triumph), who, with 1hr 8min start, ran into second place, maintaining an average of 36.3mph, despite the accident and frame breakage described above...the entries included many other British motor cycles, among which may be mentioned Royal Enfields, Hazlewood, Zenith, Rudge, Scott, James, P&M, Norton, and an assembled machine known as the Hilda.”

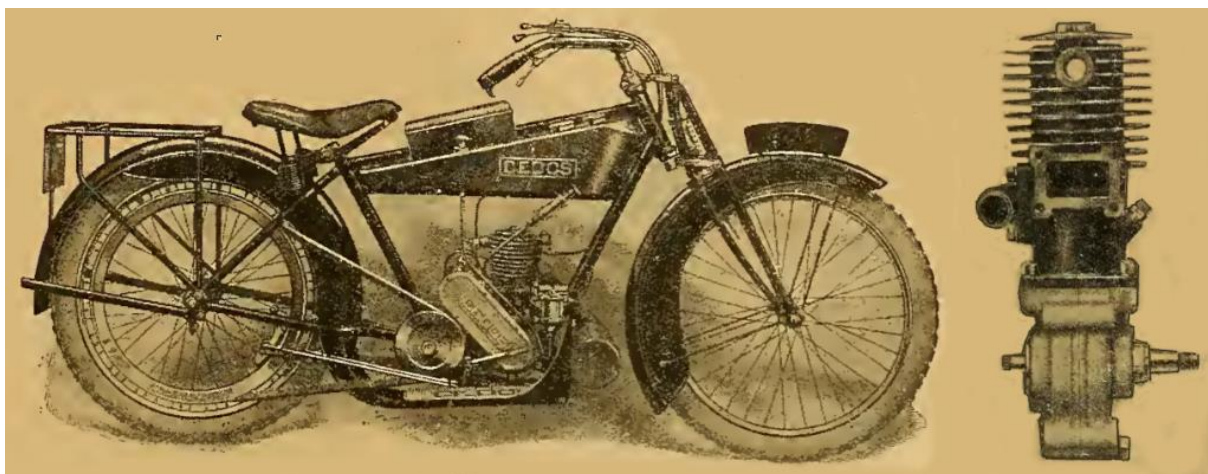


“CH Young (4hp Triumph), who ran second in 11hr 17min 20sec. His average speed was 36.3mph. TT race in the Transvaal: competitors on the road near Heidelberg. Percy Flook, who won the Johannesburg-Durban handicap race on a 2¾hp Douglas.”

“I CONGRATULATE THE PHELON & MOORE DESIGNER on having realised that the starting mechanism is one of the details of the average motor bicycle which shrieks loudest for improvement,” Ixion wrote. “Years of pedalling on the stand (what ridiculous figures we cut!) or pulling the back wheel round (and gashing our hands on the tail of the guard!) had bred such a hardy race that we hailed the first kick-starters with delirious and servile glee. Yet most of them are absurdly difficult to operate. During the war I noticed that the girl despatch riders were practically unanimous in despairing of their kick-starters, even when a sidecar was attached to the bicycle. A common sight on the Strand front displayed an immaculate subaltern pushing off a sidecar with a khaki-clad maiden at the helm; when the engine fired, she declutched and waited till his breathlessness overtook her and clambered in. It may be urged that such machines were usually in very poor tune, owing to hard usage, indifferent driving, slipshod repair work, and bad fuel. Yet these are exactly the conditions which prevail in seven private

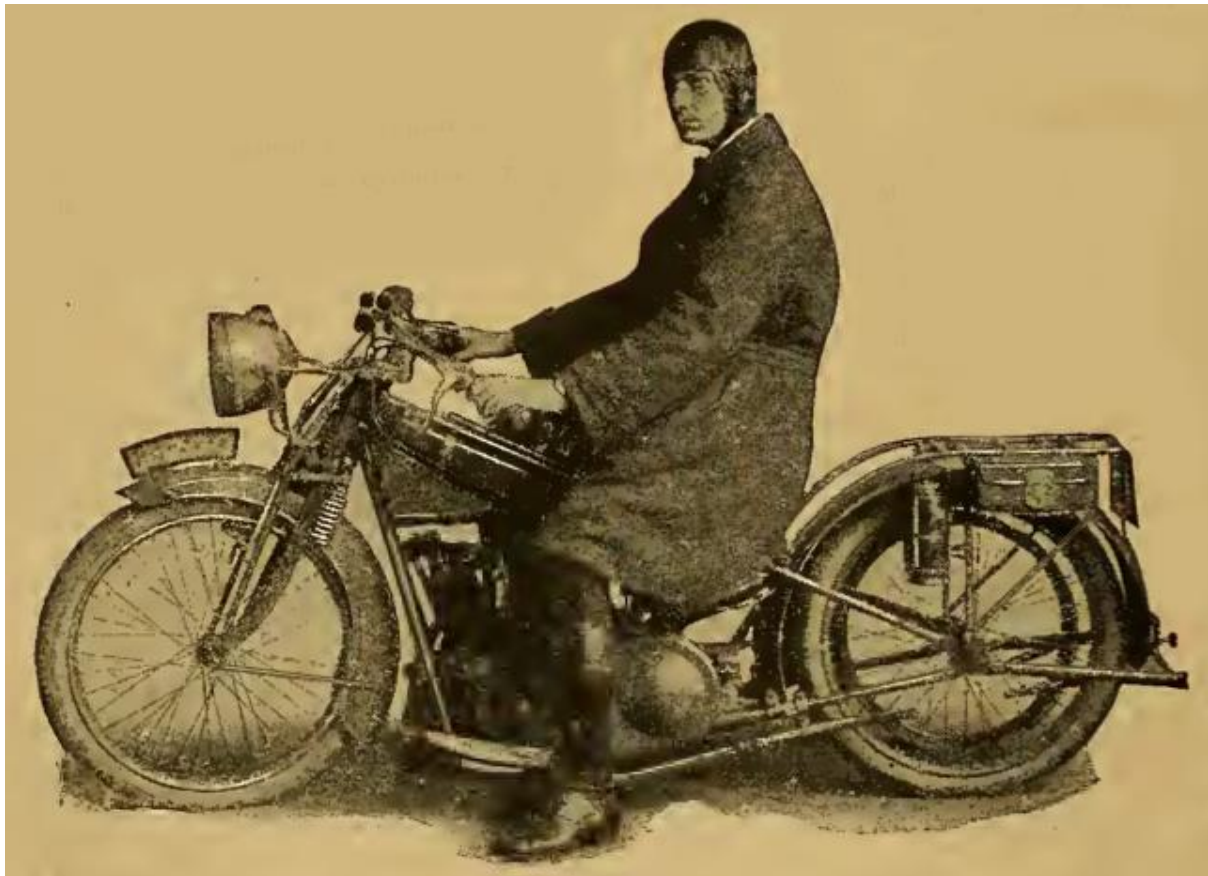
garages out of ten. Almost any sort of apology for a kick-starter will serve the needs of a flat twin or a small V: they are easily bounced over compression, the resistance is slight, and proper co-ordination of the valve lifter and starting pedal does not particularly matter. But a girl or a beginner will usually experience some difficulty in kick-starting a 'tight' single-cylinder; and a big V may be even more troublesome. I am not at all sure that the push start on second gear is not still the easiest method of starting the majority of solo machines from cold; and this is an absurdity in the year 1919. Insufficient leverage and an awkward angle are the two commonest faults in kick-starters; both appear to have been exorcised from the new P&M, and unfortunately for the designer, neither alteration is patentable."

"THERE ARE TWO WAYS OF CONSTRUCTING a reasonably priced motor cycle," one method is to skimp finish and fittings, and the other is to lay out a design in the first instance for mass production, every part being designed so that it is immediately interchangeable and drops into its place without any unnecessary fitting. The former method is, unfortunately, so common that it is a real pleasure to examine a machine falling into the latter class." The Cedros, produced by Hanwell & Sons of Northampton, was powered by a 2¼hp 211 cc two-stroke "designed and made entirely on the company's premises. There are no very unusual features about the power unit, with the exception of the fact that all parts are beautifully...Every detail is so designed that it is brazed or welded directly to the particular part of the frame to which it belongs, and, in consequence, there should be a minimum of rattles...A very simple two-speed gear box of the constant-mesh type is enclosed in a circular box, and this box in its turn is fitted into a circular lug, which forms the bottom bracket of the frame...The manufacturers do not believe in front wheel brakes, and, consequently, we find two brakes acting on the belt rim—one on the inside of the V is operated by the right toe, and one on the outside of the V by the left heel."



"Right side view of the Cedros two-stroke, illustrating the double brakes on the belt rim, and one of the conveniently placed pedals. Front view of the engine, showing the exhaust outlet with machined ports."

“ALTHOUGH THE SIMPLEX MACHINES HAVE NEVER BEEN INTRODUCED commercially into this country, they have been known to many riders for their general excellence of workmanship through the friendly meetings resulting on the Anglo-Dutch trials, which were so popular before the war. The present design now before us, which is to be placed on the market next year, is of very taking appearance, and embodies very sound principles of frame construction. An extremely low saddle position, barely twenty-eight inches above the ground, is possible with the design, which is of duplex construction throughout, and has continuous members running direct from the steering head to the back fork ends. The saddle is placed as nearly as possible midway between the front and back wheels, since it is here that the minimum of road vibration is felt by the rider, the machine, as it were, oscillating about the centre point, which consequently deviates less than any other part from a path parallel to the ground during its forward travel. Druid Mark II forks are fitted in conjunction with flat handle-bars of the semi-TT type, and the latter are fitted with Pedley pneumatic grips, which we know from experience are extremely pleasant to the hands, especially on long journeys. A 3½hp twin MAG engine is fitted, with magneto placed in a well protected position behind the rear cylinder. Lodge weatherproof plugs are used, while gas is supplied by an Amac carburetter. Transmission is by chain and belt through a three-speed gear box with handle-bar-controlled clutch, while a powerful kick starter is fitted on the right-hand side. Altogether the design is clean and workmanlike, and reflects credit on the makers, the Simplex Cycle and Motor Co, Amsterdam, Holland.”



“While being particularly ‘English’ in style and finish, the Dutch Simplex is full of novelty although quite free of freakishness.”

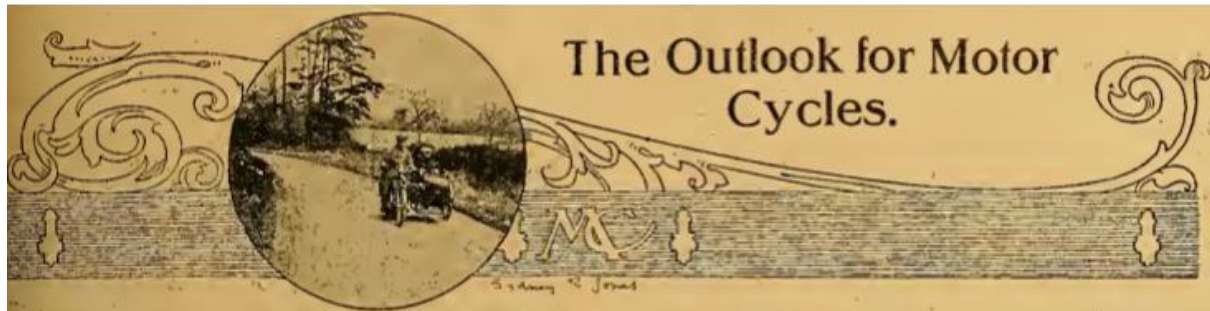
“THE RAC DRAW ATTENTION TO THE FACT that a Military Order is in force in Ireland applying to the whole of Ireland forbidding having, keeping, or using a motor cycle by any person other than a member of His Majesty’s Forces, or police constable, without a permit from the Competent Naval and Military Authorities, or from the Chief Officer of Police in the district in which the person resides. Motor cyclists taking machines to Ireland must approach the police authorities in the district in which they reside in England in advance, stating that they intend to take a motor cycle to Ireland via a certain Irish port and request the police authorities to write to the Chief of Police of the port of disembarkation in Ireland, in order that the traveller on reporting to the Chief of Police at the port of arrival in Ireland may obtain the necessary permit.”

“BEING A REGULAR READER OF YOUR PAPER, I happened to notice a question asking the fastest speeds of a car and a motor cycle. You state the cycle record at 93.48mph, and accomplished by S George. I should like to state that an American Excelsior, officially timed, has obtained a speed of over 100mph, and until recently was the only machine to attain such a speed. Also, you state that Ray Creviston attained a speed of 92½mph. This was his speed while attempting to lower Lee Hummston’s road record of 94.47mph, accomplished in 1912—a year which could not boast of many fast machines. Hummston’s record was also made possible by the help of an Excelsior

motor cycle. I have ridden an Excelsior for the past three years, and find that it is an ideal machine for overseas work.

JC Kyle, New Zealand.

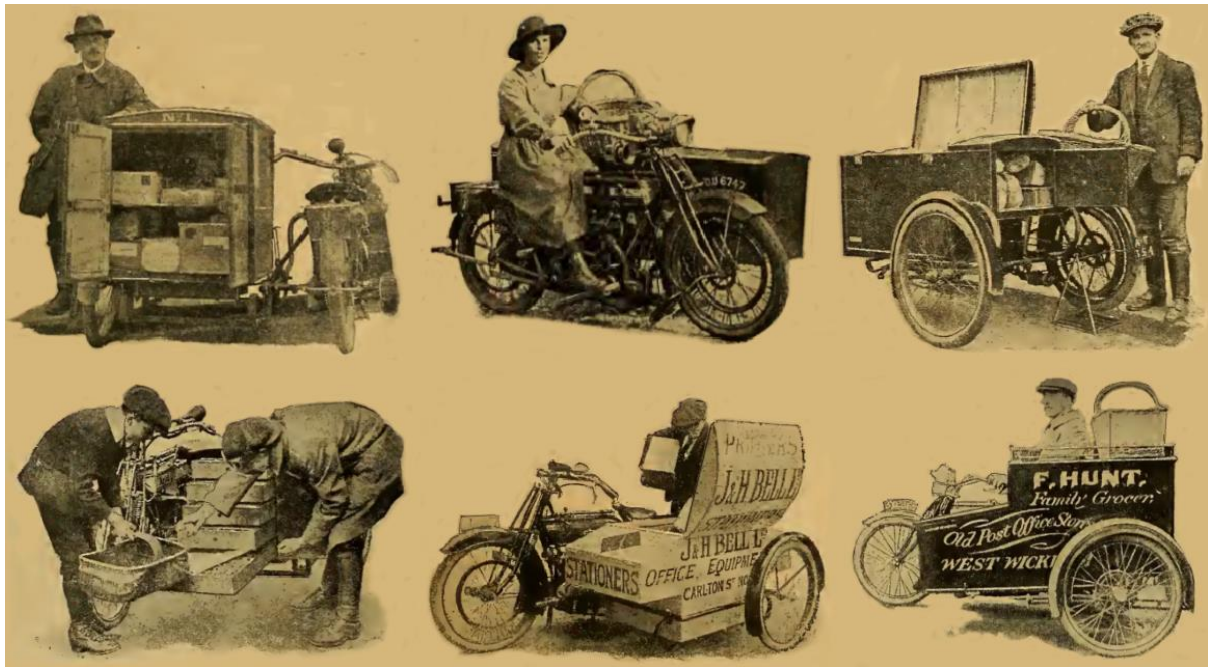
[The record to which we alluded is the British record made on Brooklands, and passed by the BMCRC—Ed]."



MAJOR R VERNON C BROOK AMIEE assessed peacetime supply and demand: "In 1913 over 1,80,000 motor cycles were registered in the United Kingdom, being in excess of the number registered in 1912 by nearly 39,000, and showing an increase of more than 20% for the year. These 39,000 machines were, not all made in this country, as 1,700 motor cycles were imported during the year, as compared with 1,380 in 1912, which, deducted from the above figure, leaves some 37,300, which may roughly be taken as the number of machines manufactured for the home market. In addition to these machines 17,000 motor cycles were exported in 1913, so that the two figures added together give 54,300 as roughly the number of machines made in the United Kingdom in 1913...In 1913 there were not more than a dozen motor cycle firms turning out over 2,000 machines each per annum...Of the remaining twenty-three makers, who go to make the total of thirty-five firms, turning out more than 500 machines a year, very few reached 1,000 machines per annum. To-day some of these firms are planning for 5,000 or even 8,000 machines per annum, and in addition there are a number of new firms, say half a dozen, who are laying out for 5,000 machines per annum, to say nothing of the firms which are planning to produce motor cycle engines on a big scale, which engines will be absorbed by the numerous small motor cycle builders not included above, of whom there are at least two dozen, each turning out, or capable of turning out, five or six machines a week...the commencement of the 1920 season should see a return to the output of 1913, namely, 54,300, plus, say, 25% increase all round which gives a total of 67,900 machines per annum amongst the makers who existed in 1913. Assuming that six big new firms will produce by next spring 15,000 machines per annum, added to which there are, say, twenty small 'assemblers' who on an average will turn out machines at the rate of five a week, and we get a further 5,200 machines per annum, making a grand total of 88,100 machines per annum to meet the estimated shortage of 217,200 motor cycles which exists to-day, and by the time the above estimated outputs are in full swing the shortage will be greater still. To relieve the situation a number of machines will undoubtedly be imported from America, though whether they will come

in large numbers with the 33⅓% duty, 15% extra to cover difference in rate of exchange, and a big leeway to make up in America, seems extremely doubtful, particularly as the output of the American factories is down too...The demand for machines for export, which numbered 17,000 odd in 1913, is also short by very large numbers—perhaps not so short proportionally as we are at home here, as the demand has fallen off for many reasons, and America has been very busy in our pre-war markets. To sum up, then, it seems very likely that it will take at least two years to meet the present shortage probably four or five years will be the time required to overtake the demand, during which time the demand is steadily increasing...The prospective buyer who waits for a drop in prices is likely to be disappointed, unless he is prepared to wait for two to two and a half years, for, with the present more equal distribution of wealth, there are thousands waiting to buy and prepared to pay fancy figures if only they could lay hands on the machines of their choice.”

“SIDE-CARRIERS FOR LIGHT DELIVERY—The motor cycle as an aid to cheap and expeditious transport: From chimney-sweep to confectioner, there is scarcely a tradesman who cannot use a side-carrier with advantage. Time has always represented money, but it represents a greater value than ever to-day, and one may anticipate that the motor cycle will play an important part in preventing waste of time, which is such a serious item in every business. The solo motor cycle is already a welcome and fully recognised means of quick transportation for men who hitherto have walked, but we are concerned at the moment with the delivery of light goods such as, before the war, employed a vast army of horses, carts, and youths, which, costly as it was to the tradesmen, failed to give entire satisfaction. Another great advantage of the motor cycle for light delivery is that the small tradesman, by having two bodies for the sidecar chassis can use the machine for pleasure during the week-end. A point greatly in favour of the side-carrier is that it can be made a valuable mobile advertising medium, and many kinds of unique carrier bodies have been devised to attract attention. Most sidecar manufacturers make delivery side-carriers suitable for almost every business, and tradesmen should not find any great difficulty in procuring an outfit to suit their requirements.”



Specialised trademen's side-carriers (from top left): parcels, butchers, bakers, eggs, stationery, post.

"AMERICAN MOTOR CYCLE CLUB LIFE—extracts from our United States news letter: The second annual motor cycle field day of the New Jersey MC brought out 828 motor cyclists and their friends on 329 machines to the rallying place, Seidler's Beach. Three special awards were made for neatest solo and sidecar outfits, and longest distance travelled by anyone attending. Prizes were won by riders who had machines that had gone more than 10,000 miles each. 172 miles was the farthest anyone rode to attend. Eight novelty events were run off—five for solo, three for sidecar. Big thrills were in the cross-country solo and sidecar and the sidecar pursuit race. One machine somersaulted in the water, but without damage to riders or machine, although it was a close call...Our club programmes are apt to be a little more snappy than those issued at home. These extracts from that of the Seidler's Beach affair are just a shade less staid and formal than you will be accustomed to: 'Carl W Bush Co Gallop (for solo riders)—ride halfway to a turning point, dismount and push motor cycle, with engine not running, around post, start motor, and ride to finish. Get off and push, laddie buck. Three good prizes donated by the Carl W Bush Co. Joseph B Werner Scramble (for sidecars only)—sidecars line up in ring and ride until they have eliminated others or have been eliminated themselves. Passengers must work to help their man win. All set? Let's go! Three merchandise awards donated by Jos B Werner. The Sidecar Run and Ride (sidecars and passengers only)—machines at one end of field, crews at other; at the word the crew start running for their machine, start the engine, and ride to the finish. It calls for team work. One set of prizes for the winning crew only is all we could dig up, fellers.'"



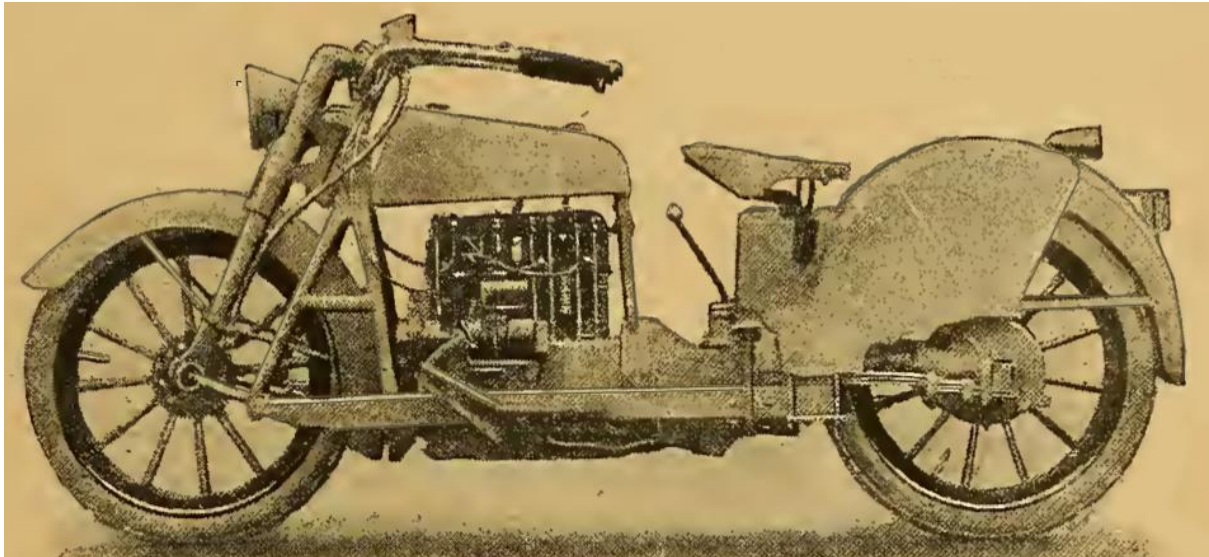
“In a beach race organised by the New Jersey MC, one competitor steered so abruptly round the turning point that his outfit overturned. No serious damage was done.”

THE SCOTTISH SPEED CHAMPIONSHIPS were fought out over 10 laps of a two-mile oval course on the beach at St Andrews. DS Alexander (2¾hp Douglas) won the lightweight title having pipped his brother, AH Alexander (2¾hp Douglas), at the post. AH Alexander was also in the running for the middleweight title aboard a 3½hp Douglas until a blown valve cap put him out of the running, at which point, as the Blue ‘Un reported: “The finest performance of this event, if not of the afternoon, was that of GW Glen (3½hp Triumph). This local rider had a very speedy mount and knew how to handle it. His riding was greatly admired, and his cornering was one of the features of the afternoon. After the retirement of AH Alexander, Glen had things his own way, and keeping a fine average speed won easily, his time being 25min 15sec. Towards the finish his engine seized slightly, and he got off, but mounting again finished in the time given. JR Alexander (3½hp Matchless), was unfortunate; his first trouble was in connection with the drip feed, the needle valve indicator falling out; with the aid of an ordinary pencil he kept going until gear trouble caused him to retire...In the Heavy Class AH Alexander (7hp Indian) was again unfortunate. He was leading at the end of four laps, when coming round past the judges for the fifth time, he threw a plug amongst the crowd, and made a brave show on one cylinder. He naturally failed to finish among the leaders. BM Brash (7hp Harley-Davidson) stopped and changed a plug, while AT Brash had a nasty fall through his exhaust pipe working loose and locking his back wheel. FW Dixon (7hp Indian), who had been riding well all through, proved to be the winner, his time being 22min...The Edinburgh Club easily won the team race, their team consisting of Geo Grinton (7 Harley-Davidson), AJC Lindsay (3½hp Rover), and AH Alexander (7hp Indian). The last-named made the fastest time of the day during this event.”



“Two Scottish Championship holders: DS Alexander (2¾hp Douglas), the Scottish lightweight champion, whose time was 30 minutes for the twenty miles, and GW Glen (4hp Triumph), the mediumweight speed championship winner.”

“ACCORDING TO CAR DESIGNERS, THE MOTOR CYCLE eventually will follow car lines, inasmuch as four-cylinder engines, shaft drive and spring frames are concerned. How far these prophets are correct only time can prove, but, so far, where drastic departures have been made on motor cycles, such machines have been regarded as freaks and have failed to appeal to public fancy. Among these novel machines the American Militaire probably takes first place. Although little has been heard of this unique motor cycle of late, it seems that experiments have been proceeding, and it now reappears on the American market under the name of Militor. The new model is distinctly in the ‘heavy’ class. The four-cylinder engine has a bore and stroke of 63x89mm, giving a total capacity of 1,568cc—far and away the largest engine fitted as the standard power unit of a motor cycle. This engine is air-cooled with overhead valves and mechanical lubrication by a gear pump. The gear box is integral with the crank case and is centrally controlled as on most American cars. From the engine power is transmitted through a plate clutch and gearing to the shaft and bevels. The electrical installation includes a combined lighting and ignition set, which is carried on the side of the crank case. Artillery type



“The tappet side of the Four-cylinder Militor with engine screen removed.”

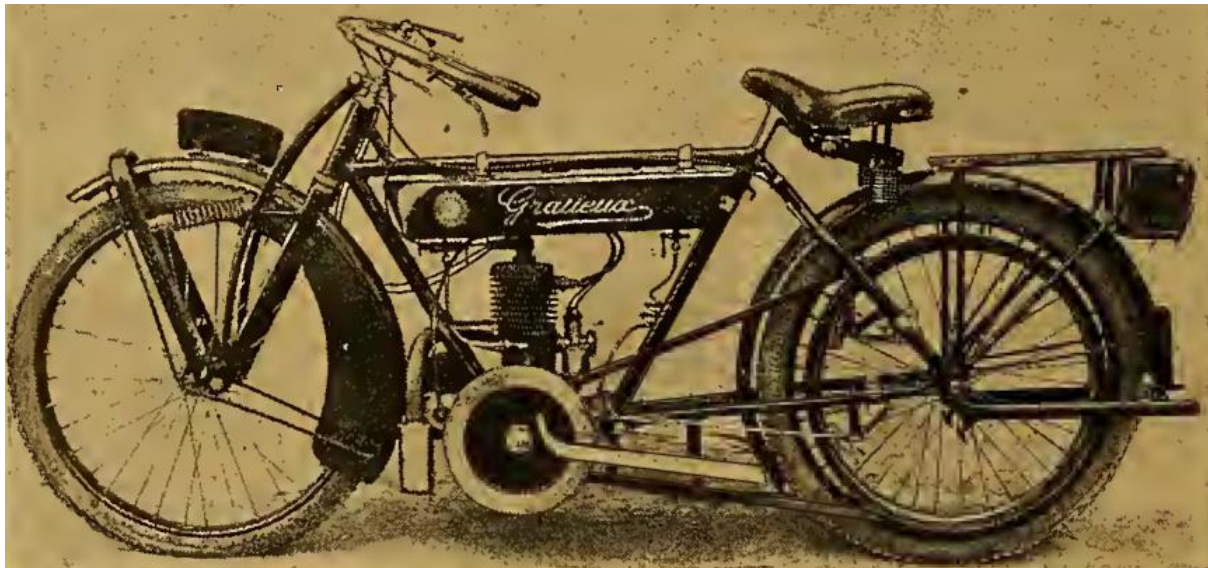
wood wheels are employed both on the machine and on the special sidecar which is supplied when required. Undoubtedly the most interesting feature of the Militor is the pressed steel frame, which consists of two side members connected at the front by a triangulated ‘pyramid’ supporting the steering head. The front fork tubes are carried up above the steering head and embody two heavy coil springs. In addition, the hub is connected to the front ends of the frame by a patented system which, it is claimed, will absorb head-on shocks of enormous pressure. At the rear the frame is sprung on three leaf laminated springs, with an additional supporting leaf on the rear upper side. The tank is supported at the front on a lug on the head stamping, and at the rear, on a loop member carried on the clutch casing of the engine-gear unit. The capacity of this tank is 3½ gallons, while 1½ gallons of oil are carried in a second tank which is integral with the rear mudguard. 28x3in tyres are used, which, with the footboards arranged on the frame level, give a somewhat high riding position. An instrument board is carried on the handle-bars. In July of this year, Lieut A Chappie covered two miles in 1min 18sec at the Sheepshead Bay Speedway, USA, which is a speed of nearly 92mph. The price of this unique machine in America, with sidecar, is £120, or as a solo machine with idler wheels, the price is approximately £96.”



“Showing spring fork and steering head. A unique feature is the handle-bar instrument board. The system of rear springing, it will be observed, is on car principles.”

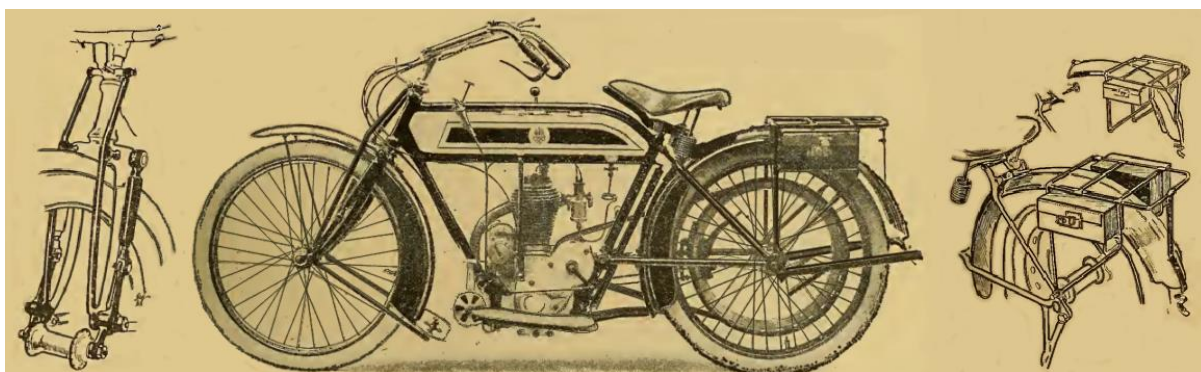


“THE FACT THAT FRANCE IS MAKING rapid strides in motor cycle construction is emphasised by the advent of several new machines, amongst which the Gratioux two-stroke compares favourably with English productions. This machine is of entirely French construction, being built in the factories of P Gratioux at Billancourt, a firm which gained a reputation during the war for its aeronautical productions. The motor is a three-port two-stroke, and is said to be economical in running and very well balanced. The lubrication is automatic and can be regulated by a milled head. Two brakes are provided, both acting on the belt rim, and it will be noted that the aluminium footboards are placed unusually far back. Maximum speed is about 38mph; weight just over 120lb; and tank capacity four and a half litres (one gallon) petrol and one and a half litres oil...A striking feature lies in the unusual type of spring forks. They should be equal to the road conditions in France, which in places are reported by demobilised despatch riders to be very bad.”

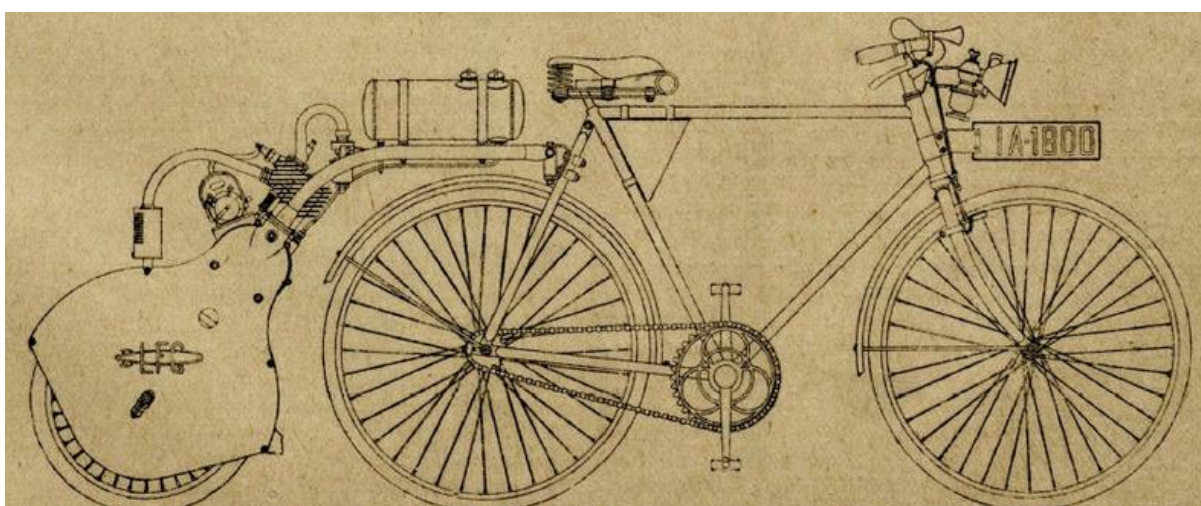


“The Gratioux two-stroke, a French lightweight weighing 120lb.”

“UNTIL QUITE RECENTLY, NO ITALIAN MOTOR BICYCLES have come to England, but since the armistice one Italian machine, at least, has arrived in London—the Bianchi—which is handled by the famous firm which makes the well-known Bianchi car. Built almost entirely on British lines, the Bianchi motor cycle, though it does not present any startling novelties, may be said to be a thoroughly practical mount...The most notable feature about the Bianchi is the power unit, of 75x112mm, 498cc; it will be seen that the designers have pinned their faith to the long stroke, of which there are not many examples in British motor cycle engines...The gear is incorporated in the crank case, which also contains a multiple disc clutch, constructed in a similar manner to the clutch employed on the Bianchi car. It is operated by a quick-thread outside the crank case. The final drive is by belt...the near side pedal actuates the clutch and the off side pedal the brake, which works against the inside of the belt rim. There is another brake working on the outside of the belt rim, and operated by the lever on the right of the handle-bars...The Bianchi engine-gear unit embodies a kick-starter which follows the usual quadrant and ratchet-wheel pattern, although the parts are external and, therefore, less immune from the ravages of mud and dust than most of the current English designs...points of convenience have been well studied, as the back mudguard is so designed that its rearmost half, which is combined with the carrier, is detachable, and, consequently, allows easy access to the back tyre.”



“The front wheel suspension of the 4hp Bianchi. The latest Bianchi model, an Italian production fitted with a 4hp engine of 498cc and three-speed gear built integral with the crank case. The rear mudguard and carrier is so constructed as to give quick detachability.”



Luftfahrzeug Gesellschaft (Aeronautical Company) of Berlin was among the many manufacturers of military aircraft to dabble in powered two wheelers after 1918. Its 1¼hp Motor-Treibard attachment was said to push a bicycle along at more than 25mph, which must have been a hair-raising experience.

“SIR,—WHILE TOURING IN DEVON RECENTLY I had the misfortune to strip the gear pinion of my motor cycle. I had not been stopped five minutes before an AA scout appeared. Of course, he could do nothing, as a new pinion was needed. Knowing the difficulty of obtaining spares, I anticipated being hung up in an out-of-the-way corner of the country for a week or so, but the AA scout informed me that the Association would get me a new pinion if I asked them. I managed to get to a place where I could put up, and wrote at once to the AA in Birmingham, asking them to obtain for me a new pinion. This I received within two days, although the Association explained that-they had had a little difficulty in obtaining the part. As the AA had trouble in getting the spare, I doubt whether I should have obtained one myself. I do not think that this branch of the A.A. service is generally known amongst motor cyclists, but a word in your valuable paper

would remedy this.

AE Phillips.”

“SIR,—WILL YOU KINDLY INSERT THE FOLLOWING in your valuable paper? I wish to air a grievance, which is no doubt shared by many other readers at this time. Just recently I have travelled twenty-four miles and fourteen miles to see two motor cycles that were advertised. In each case the machine was grossly misrepresented, and ought to have been described as portions of war wreckage; then we should not have our valuable time wasted in going to see such rubbish. The last I saw was advertised as a ‘Triumph 4hp, 1915, counter-shaft model, three-speed, less magneto and carburetter; £38.’ This is what I saw: The remains of a Triumph with the engine radiating gills chipped, gear box with no external fittings of any kind or pulley, a bullet hole through the tank, which had no pump or fittings of any kind, no front tyre and wheel buckled, a worthless tyre on the back wheel, no saddle, no magneto, no carburetter or mudguards, and condition of the interior of the engine and gear box unknown. It stood out in the rain amongst many other old veterans, all in a worse plight than this one, which was an awful sight.

Old Reader, Fulham.”

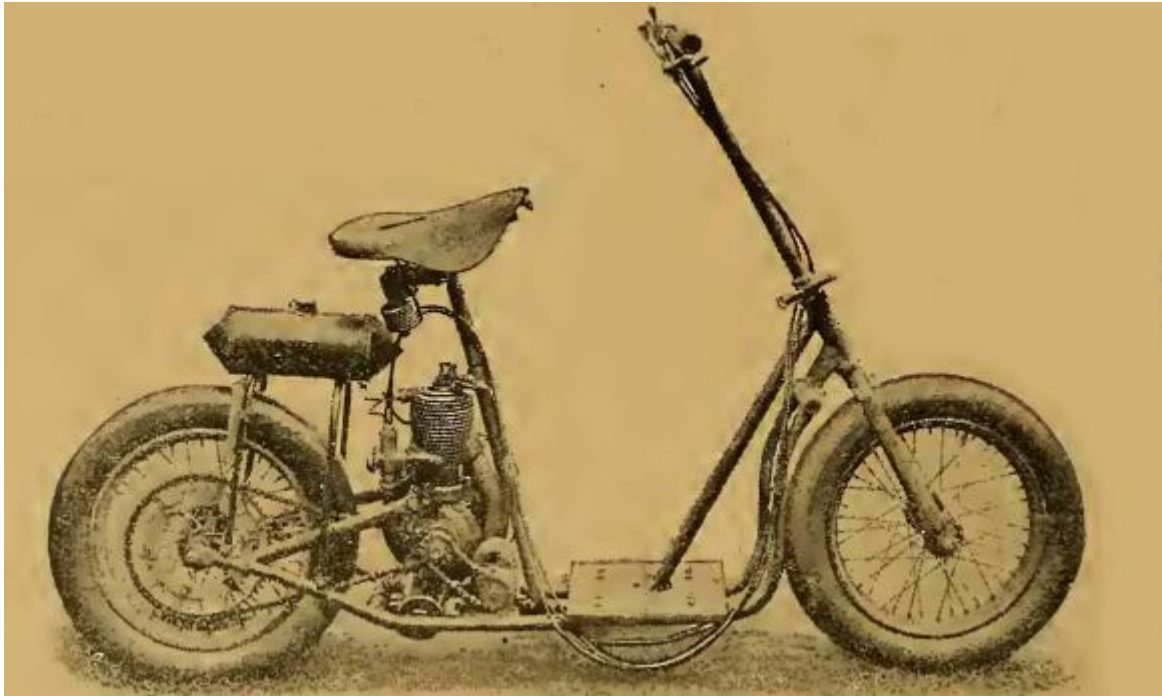
“SIR,—IN THE OFFICERS’ MESS HERE away in the wilds I came across a copy of The Motor Cycle with the report of the Scottish Trials. It was a real treat to see it. How I would have liked to go over the old hills. I borrowed the copy and devoured it from end to end. Reading through that issue I was pleased to see so many of the old names, and I hope to have the pleasure of being with them next year, if not this. No doubt the boys will remember my camera. You can tell them that it is very busy away in these wild spots. I manage occasionally to borrow a W.D. Triumph, and get a bumpy ride. Tin Lizzies are very popular for these districts of tracks, not roads. That was a fine issue; glad to see you are going so strong.

J Brunell, Lt, Erankeui, Asia Minor. “

[Lt Brunell is now back in England—Ed.]

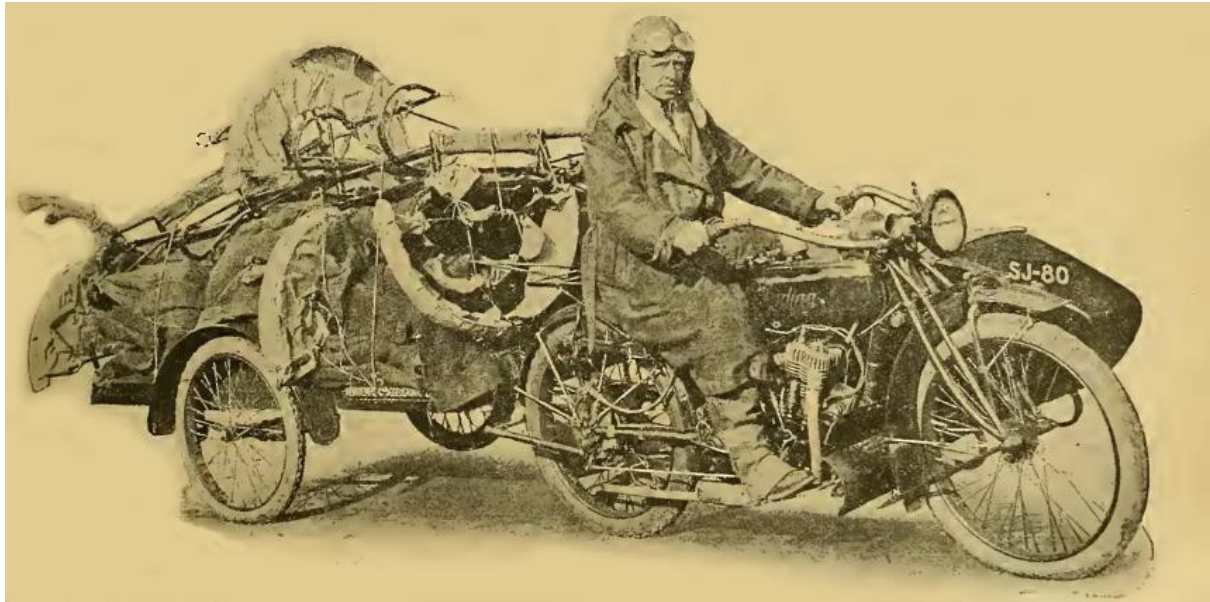
“SIR,—NOW THAT THE COLD WINDS are upon us again, we lady occupants of sidecars have seriously to consider our complexions, and from the various uncomfortable means that I saw used last winter I think a hint would be acceptable to many. The loose gauze veils often worn really cause serious chafing of the skin, and an ordinary net veil alone is of little use, but I find that if one first ties on *tightly* a fairly thick Russian net veil *under* the hat, and then drapes *over* the hat a loose gossamer motor veil, this may be lowered when driving and the under veil prevents any chafing. I have driven all day with this arrangement, and find it an admirable protection in every way, but the net veil must be tight. Now, a word of warning to my younger sisters—flappers’ I believe they are called—do not persevere unveiled when the wind blows from the north or east, or you will rue it later.

WMD, Golders Green.”



Levis built a one-off scooter to compare it with their lightweight motor cycles. It was powered by a 172cc two-stroke engine—half of one of the flat twins Levis had produced for the War Department.

“A TOTAL OF 1,341 AMERICAN SURPLUS ARMY motor cycles have been transferred by the War Department to other departments. Thirty-one Cleveland lightweights and 1,057 Indians have been turned over to the Post Office authorities, 140 Indians to the Public Health Service, fifty-seven Indians and forty-seven Harley-Davidsons to the Navy and Marine Corps, and several smaller lots to other departments. Over 34,000 machines were delivered to the War Department, including 15,000 Harley-Davidsons and 18,000 Indians. 1,476 Cleveland lightweights were delivered. Altogether the American Army used over 30,000 sidecars.”



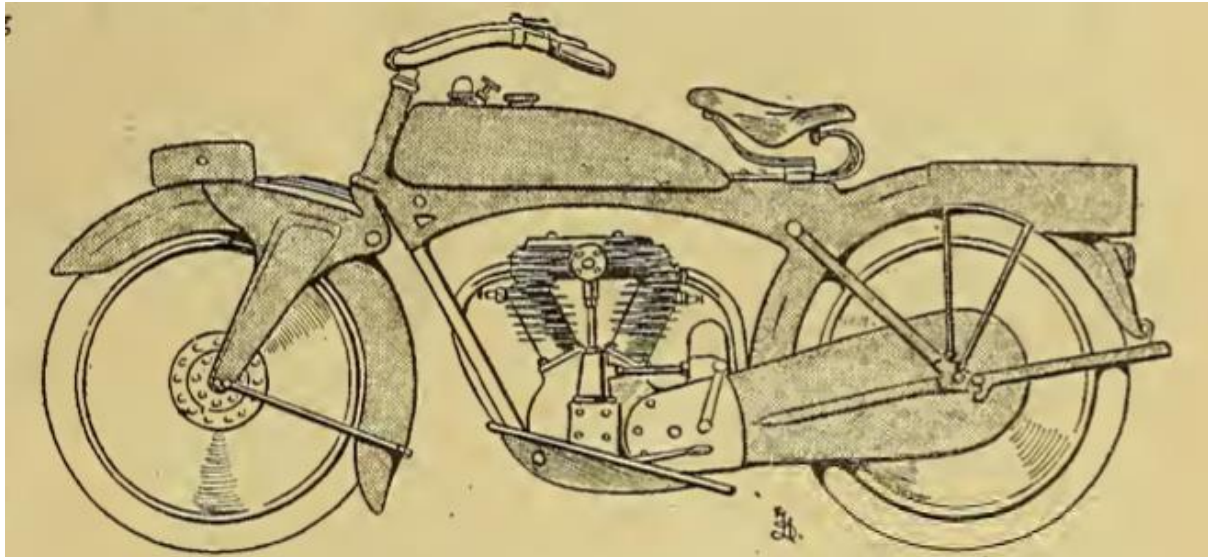
“In order to convey sidecar chassis from Coventry to the London ‘Indian’ depot, the above trailer was attached to a 1919 Powerplus outfit. Mr E Bridgeman is seen about to leave the City of Motors with a load of eight chassis, weighing altogether half a ton.”

“MOTOR CYCLES ARE TO BE USED IN THE METROPOLITAN Police Force...to enable certain inspectors In these outlying areas to perform their duties...The idea at the present time is to provide ten sub-divisional inspectors with Douglas motor bicycles, as the authorities feel that this means of transport will be more rapid and more effective than that of inspectors mounted on horseback. It wUl be very interesting to see how the scheme develops, as we are given to understand that the authorities have further plans in view to develop the use of motor cycles.”



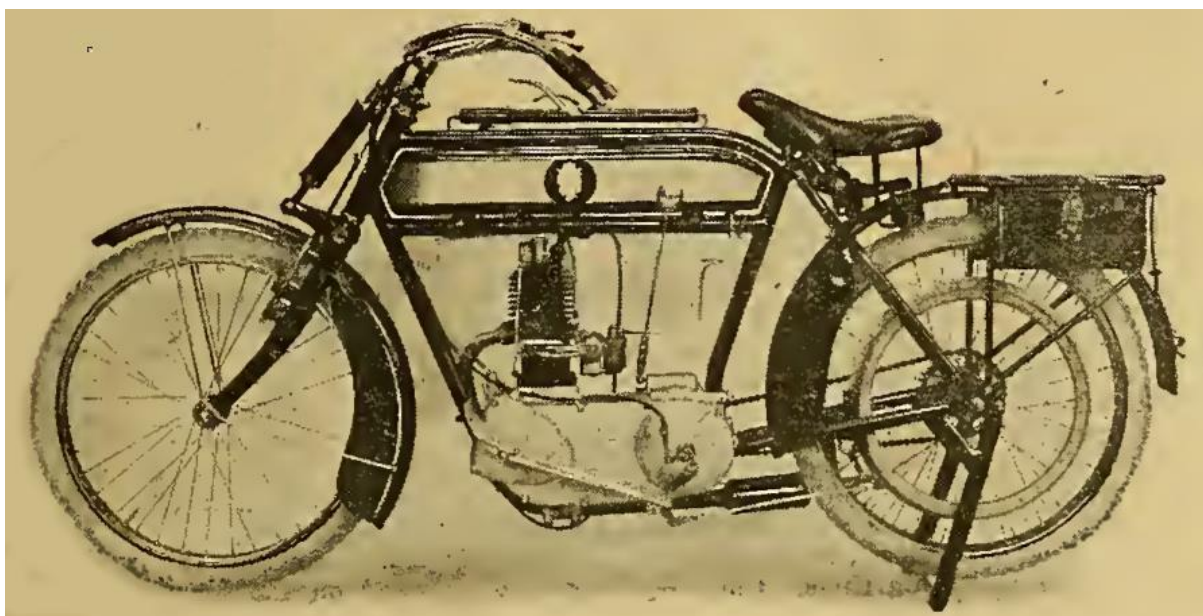
“An inspector of the Metropolitan Police on one of the fleet of Douglas motor cycles which will be used by inspectors for work in outlying districts.”

“THOUGH OUR *CONFRÈRES* ACROSS THE CHANNEL have often proved that they can produce excellent racing engines, they have, generally speaking, failed to produce complete motor cycles of outstanding merit. This promises to be altered now, and to those who have an opportunity of visiting the exhibition in the Grand Palais, the enormous improvement in French motor cycle design must come as a considerable, though welcome, surprise...although British machines are still the most common on the streets of Paris, a change is more than likely to be effected in the immediate future...The whole of the Louis Clement motor cycle is extremely novel, and shows a careful study of the more advanced section of British thought combined with excellent design and ingenious construction. A V type twin cylinder engine having a bore and stroke of 62x90mm (543cc) is formed as a unit with a three-speed gear box of the sliding type. The

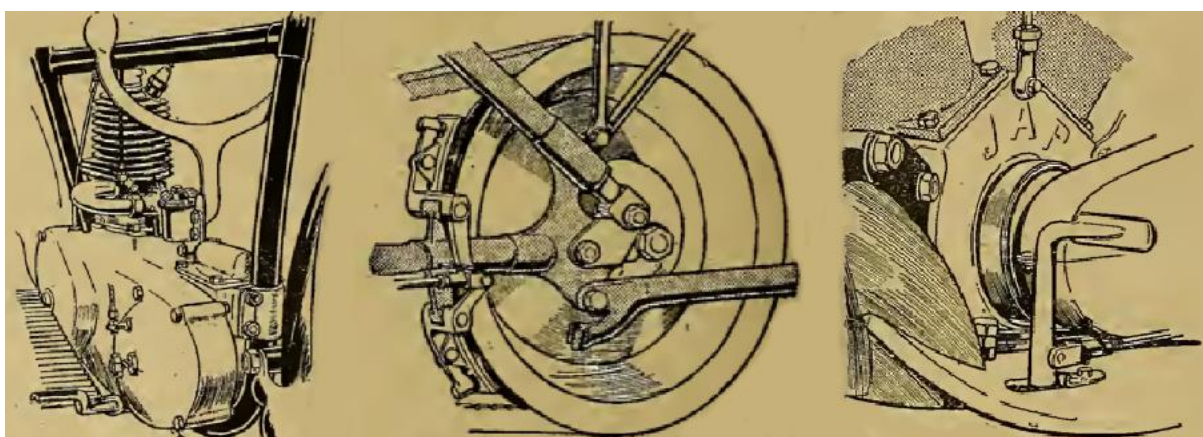


“The Louis Clement, one of the most advanced designs shown at the Paris Salon.”

clutch and front chain are entirely enclosed in the crank case casting, and the gear-driven magneto is mounted on the top of the gear box...The camshaft lies across the frame and vertically above the crankshaft. It is driven from the crankshaft by a vertical shaft and suitable bevels, the overhead valves being operated therefrom by rockers. The final drive from gear box to rear wheel is by means of a chain fitted with a shock absorber, and all wheels, which are of the disc type, are interchangeable, and fitted with internal expanding brakes. The frame is constructed partly of tube and partly of steel pressings. Pressed steel forks, whose motion is controlled by a leaf spring, are fitted to the steering head, which is solid with the main frame pressing. On this pressing, which extends rearwards to form the rear mudguard, saddle stay, and tool box, rests the tank and the saddle, the latter being mounted on three leaf springs. Aluminium footboards are extended to form a very complete undershield and a speedometer is neatly let into the tank...The feature of the Alcyon stand was undoubtedly the Ballot-engined



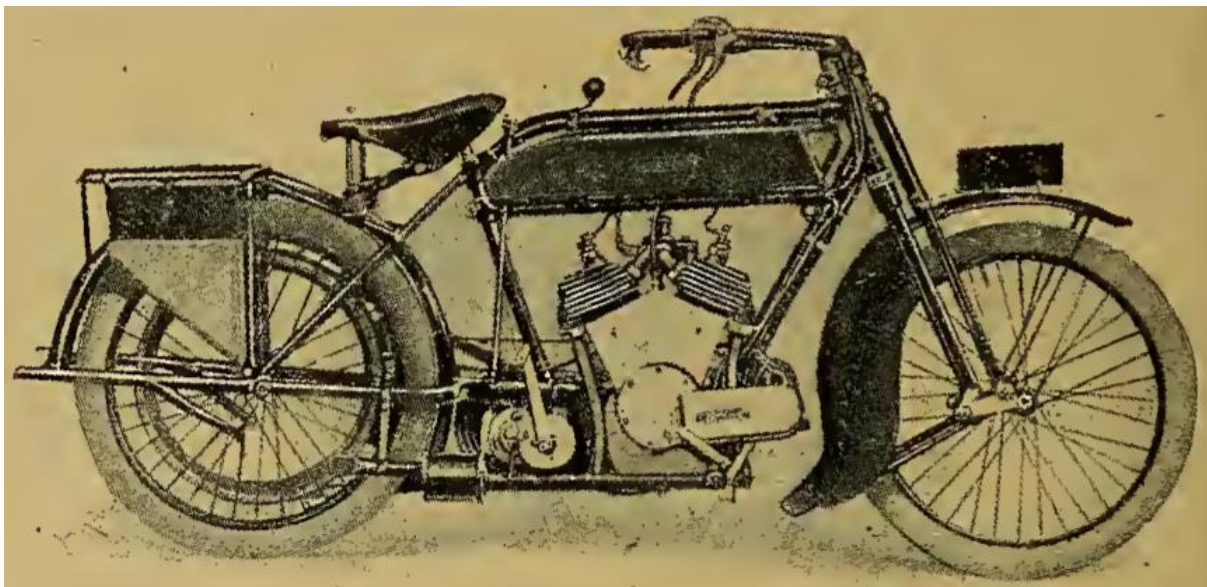
“A new two-stroke Alcyon. The knee-operated change-speed lever is clearly shown.”



From left: “The power unit of the two-stroke Alcyon, showing the unusual type of change speed lever. Bleriot spring frame and braking system. Disc wheels form part of the standard equipment. A band brake is fitted on the engine-shaft of GL machines.”

two-stroke. This machine has a single-cylinder three-port two-stroke engine of 75x80mm (548cc). An extension of the crank case encloses the silent chain, the magneto, clutch, and two-speed gear. The operation of the gears is by a forked lever projecting on either side of the tank, so that the rider can effect a change of ratio by the pressure of his knees...A feature of this very ingenious unit is that the right side footboard acts as a kick starter...the well-known aircraft firm of L Bleriot have decided to enter the motor cycle market...The engine is a vertical side by side twin of 60x88mm (499cc), having both connecting rods attached to a common crank pin. The two cylinders of the engine are mounted close together, the exhaust valve being set in front and the inlet behind, both being of exceptional size. The valve springs are neatly enclosed by split covers, held together by spring rings. Combined with the motor is a two-speed gear box...The final drive is by belt running over a very large front pulley. The

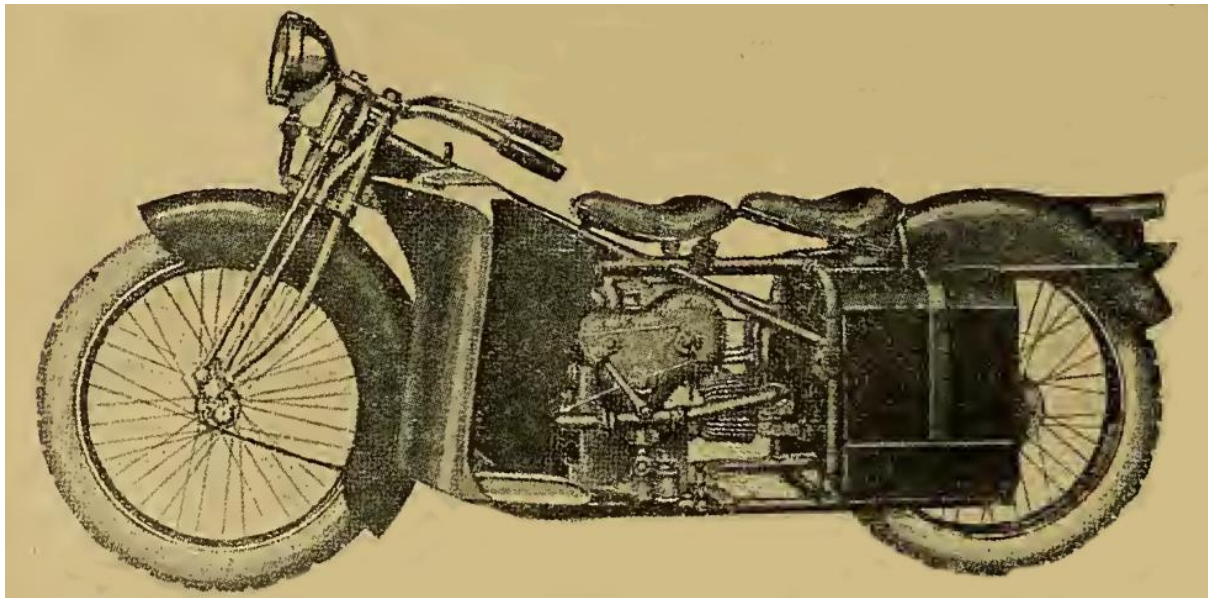
frame is a sound piece of work, suspended in front by coil springs through a trailing link action, and the machine can be supplied 'with or without a spring frame. This springing is so neatly arranged as to be almost imperceptible, all springs being enclosed in the rear down tubes, and the necessary link action occupies but a small space. Both disc wheels are shod with 650x65mm tyres, and the rear mudguard is extended over the top of the belt rim...Louis Janoir: A large horizontally-opposed twin of 85x85mm (964cc) forms the power plant of this very unorthodox vehicle. A disc clutch transmits the power to a three-speed gear box bolted to the frame just below the saddle (or front saddle, since the machine is designed



“The 6hp Peugeot, an exhibit conforming in general appearance to British design. A three-speed gear is fitted, and chain-cum-belt transmission.”

for tandem use if desired). Final transmission is by roller chain, a sprocket for the speedometer drive being held in engagement with the driving side. Two internal expanding brakes are fitted one on either side of the rear wheel, and the wheels are quickly detachable and fitted with 750x85mm tyres. A very stoutly constructed tubular frame is suspended in front by powerful spring forks and at the rear by cantilever springs. Large detachable boxes for luggage are fitted on either side of the rear wheel, and very complete leg shields protect the rider from mud...Two specimens of Peugeot motor cycles are shown, viz, a 3½hp twin of 56x70mm (172cc) and a 6hp twin of 70x95mm (730cc). Both machines are fitted with primary chain drive, three-speed countershaft gear box, and final belt transmission. The valves are placed side by side and protected by a metal shield. Sidecar lugs are built integral with the frame of the 6hp model, and the frame is somewhat unusual in that, though it is constructed on standard lines with a dropped top tube, the front is considerably higher than the rear...In addition to complete motor cycles several engine makers exhibit a goodly display of engines. No greater variety can be found than that on the stand of A Anzani. They are beautifully finished, but in these and other engines we noticed an absence of adjustable tappets.

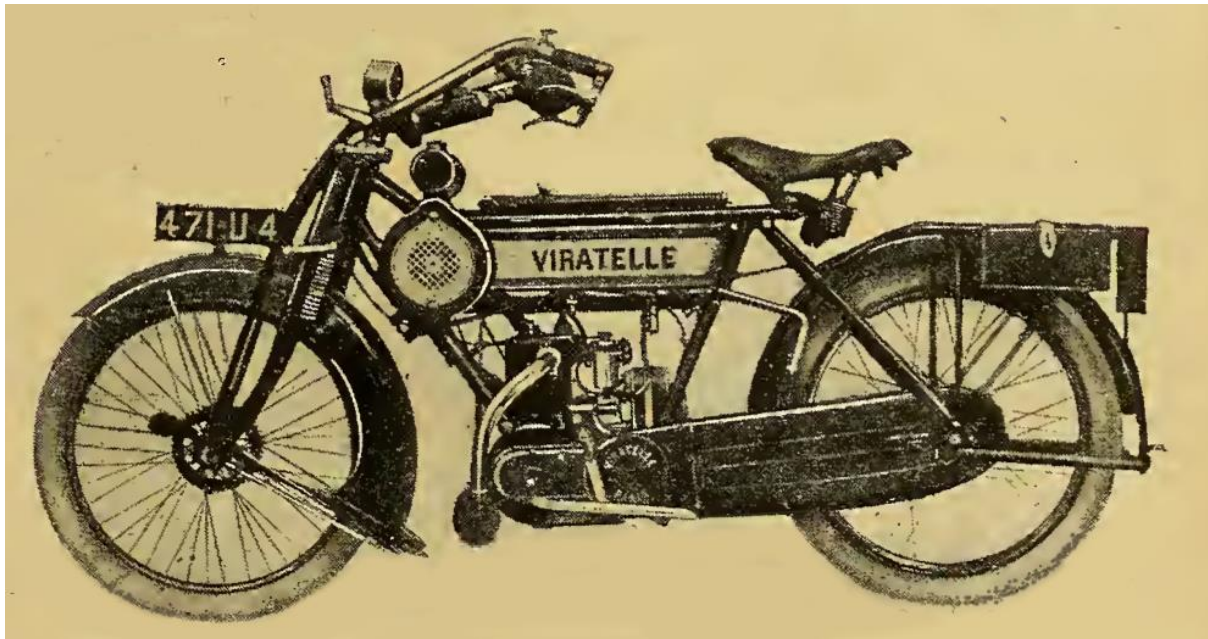
The smallest Anzani engine shown is the 2-3hp 75x80mm (353cc), a single-cylinder, with a gear-driven magneto set at an angle. Another single-cylinder is the 3-4hp, 85x87mm (493cc), fitted with a mechanical oil pump and crank case sump. A twin-cylinder of the same dimensions is made, and has the magneto placed in front, as on the Morgan-JAP. A particularly interesting example of Signor Anzani's work is a V type 10-12hp air-cooled engine of 78x125mm (1,194cc), with the cylinders staggered and placed at a very narrow angle. It has overhead valves. A similar 12-16hp engine of 105x120mm (2,077cc) is also shown. One of the most attractive engines on the stand is the side by side twin, the cylinders of which are cast in a pair, with an air space between. The dimensions are



"The 8hp Janoir flat twin, designed for tandem use. Note the ample protection afforded the rider, and the large detachable luggage boxes."

60x90mm. This is one of the few Anzani engines provided with adjustable tappets...Both single and twin-cylinder Condors are shown fitted with. MAG engines. A primary chain fitted with engine shaft shock absorber transmits power to an external band clutch, and a constant mesh two-speed gear, the control of which ensures clutch withdrawal when a change of ratio is made. The final drive is by belt, and both brakes act on the belt rim. Handle engine starting is employed, and the most striking feature of the frame is the use of double tubes wherever possible. A spring fork of the single or non-girder type insulates the front portion of the machine, and a combined spring saddle pillar and footboards may be obtained as an extra...A solitary example of water-cooling for motor cycles was the 3hp Viratelle, an interesting machine having a single-cylinder engine with enclosed side by side valves behind, the cylinder. The engine forms a unit with a very simple and ingenious three-speed epicyclic gear. This gear is the outcome of years of road experience, and runs on ball bearings throughout. A circular radiator is arranged in front of the tank, and inside the two halves of which it is composed lies a fan driven from the engine by a long belt. A similar machine having two side-by-side cylinders is also

manufactured...Cycle attachments appear to be attracting the attention of French designers. The Cyclemoteur is a neat little four-stroke engine of 50x55mm (108cc) with automatic pressure lubrication. The motor is carried by special front forks and is carried by special front forks, and drives by friction on to the front tyre...Another ingenious cycle attachment takes the form of a small inverted two-stroke, the Motor Fly, which



“The 3hp Viratelle, a water-cooled single-cylinder with a three-speed epicyclic gear.”

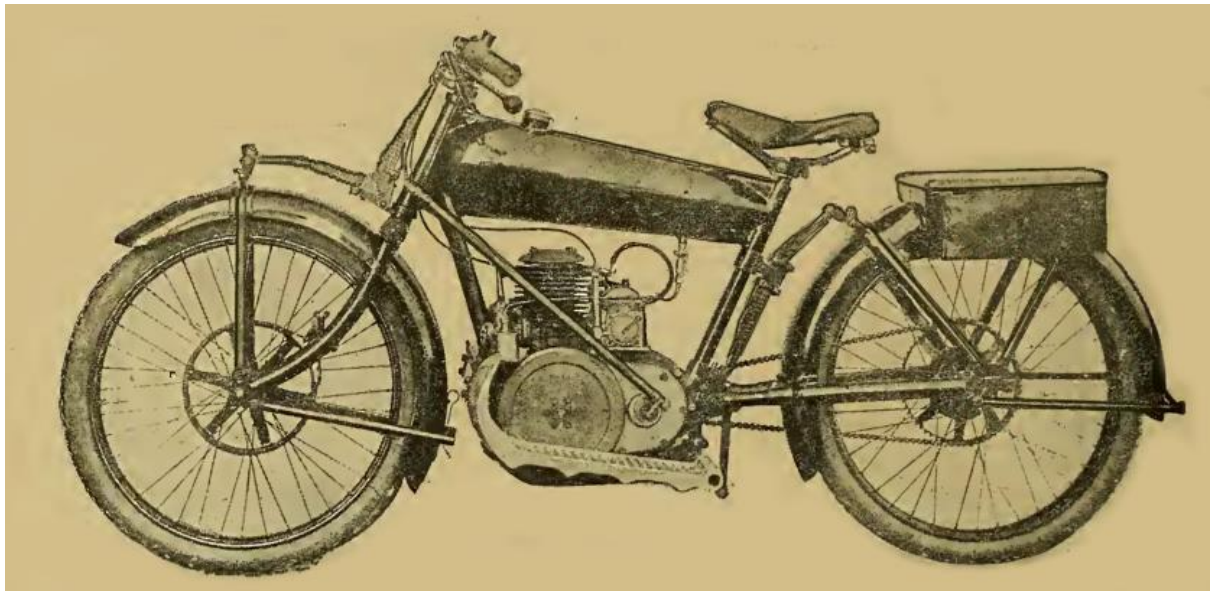
drives by friction on to a fabric-faced drum on the rear wheel. This wheel is specially constructed, and consists of a disc dished back to one side of the wheel so as partially to enclose and protect the engine...A flat twin engine embodying several novel features is carried in a cradle attached to an equally unusual frame. In the sump of the engine is a simple two-speed gear, and a cone clutch is mounted externally, the final drive being by belt. Opposed valves are employed, the exhaust being overhead, and a single tension spring working through rockers is utilised to return both inlet and exhaust valves...An extremely neat metal tool drawer is fitted directly below the carrier and contains a very complete outfit of spares, as well as the necessary tools, each in its own special compartment...Scooters were represented only by the Lumen, a neat little power unit which is made in a form applicable to attachment to pedal cycles. A small overhead valve motor of 55x50mm (119cc) is attached to the rear forks in such a manner that the crankshaft passes through the hub, the flywheel being on the opposite side to the engine. The drive is through an epicyclic gear...One of the most curious vehicles in the motor cycle exhibit was a self-propelled trailer intended for attachment to pedal cycles. A small sidecar body contains the passenger, and the outfit is propelled by a single-cylinder Anzani engine through an almost incredibly short belt drive. There was a very representative display of British machines, which seem to have got a firm hold on the French market. Amongst the many were the Triumph, Douglas, BSA, Matchless, Morgan, P&M, Triumph, Coventry Eagle, and Hobart, while the Velocette and

New Imperial were amongst those which were unfortunately delayed by the railway strike.



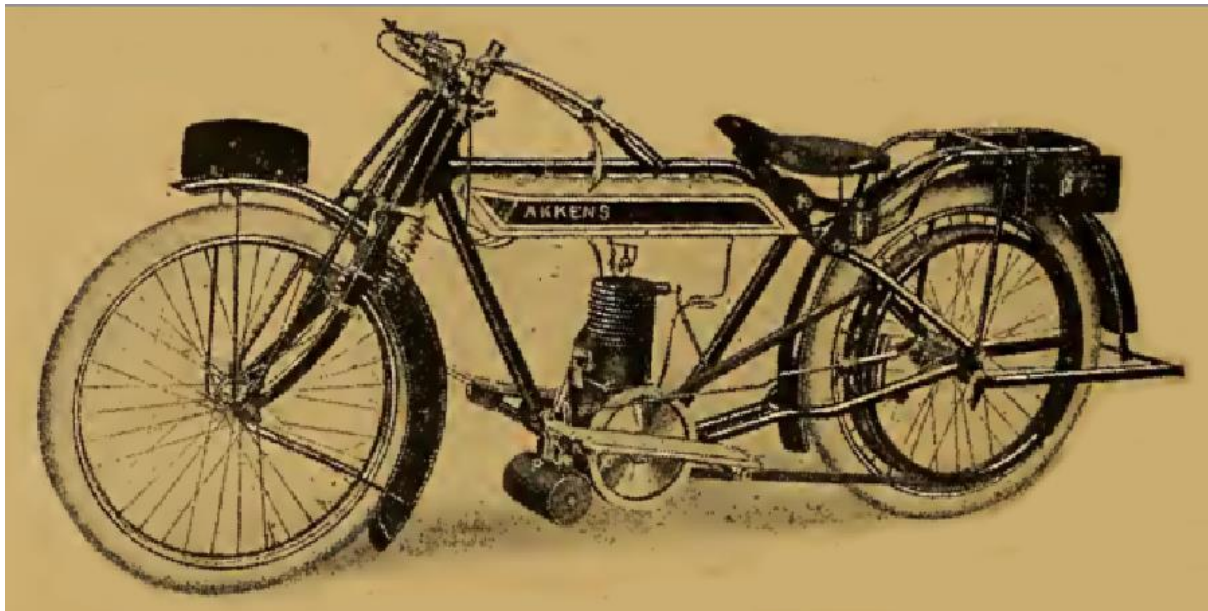
“A motor-driven trailer intended for pedal cycles, the Motoporteur ARM. A French scooter; the Lumen set can also be adapted to pedal cycles.”

FE BAKER, THE MANUFACTURER OF PRECISION proprietary engines, decided to produce a complete motor cycle using its 350cc unit-construction two-stroke. “The new Precision motor cycle, while retaining the general outlines of the conventional machine, differs from it at almost every point, the main aim being to secure the essentials by the least number of units, with an entire absence of parts attached to the frame by clips...the tank and mudguards form parts of the frame construction, and each is thus made to perform a double function...Of the many springing systems reviewed in The Motor Cycle, the Precision design is one of the most simple. Both wheels are carried in triangulated frames, of which a portion of the mudguard in each case forms one side...At one corner of the triangle the members are pivoted to the frame, the hub being at the second point, and the end of the spring at the third...we were very impressed by its running and the efficiency of its springing. To those who have not ridden a spring frame mount, undoubtedly the extra comfort provided will come as a revelation and a new sensation in road transport.”



“The new Precision motor cycle, which embodies many new and practicable features.”

“TO PRODUCE A MOTOR CYCLE FOR SALE direct to the public is perhaps a daring undertaking considering that throughout the development of the motor cycle industry the value of the agent as an intermediary has been recognised by the great majority of manufacturers. Notwithstanding, Messrs Thomas and Gilbert, of Union Street, Smethwick, consider that, with manufacturing costs at present figures, there is an opening for a machine of good quality sold on the ‘cut price’ principle direct to the user, and that there are sufficient potential buyers who prefer dealing direct to absorb their output of twenty-five motor cycles per week. The ‘Akkens’, as the machine is called, is built and equipped throughout in first-class style, the specifications including Druid, Brampton, or Saxon forks, Ericsson or EIC magneto, Amac carburetter, Leatheries De Luxe saddle, Dunlop 26x2in studded tyres, Dunlop belt and aluminium footboards. The engine is a 2¾hp two-stroke with an adjustable pulley. Raised or semi-TT handle-bars are fitted as desired.”



“The Akkens lightweight, to be sold direct to the public.”

BEFORE MOTORCYCLISTS WORE WAXED COTTON, Ixion waxed lyrical: “I have just paid some four guineas for a waterproof motor cycling suit. The tailor concerned assures me it is worth the money, for it is not only guaranteed to keep one bone-dry in a Scottish Six Days, but has a cut calculated to bring the most disdainful flapper to heel at the first wireless. If all this is true, I marvel much that it does not occur to the motor cycling tailors to supply dustproof cases in which such suits may be packed on the carrier. I am, therefore, now busy flaying an old armchair of its American cloth to construct such a case for the overalls as any practical manufacturer would supply with the clothes. This will, I think, fill the bill; but a murrain on that tailor, notwithstanding. While I am on matters sartorial, may I suggest to some artist in the tailoring trade that we motor cyclists generally look dreadful objects in wet weather. Omit the adjective ‘wet’ from the last sentence, says some cynic. Pardon me, under normal circumstances we are distinctly handsome as a class. Our chins show determination, our nostrils courage, our eyes have a far-away, do-or-die expression. But in wet weather our typical beauty is camouflaged by a headgear. Who can appear presentable with half a yard of sodden tweed sagging over his scalp-line? Who can inspire romance when the slip-stream is hoisting the tailplane of his sou’wester so that the stout elastic hooked under his chin scarce restrains the hat from doing a vertical climb? The last rainstorm caused me to throw one of Tress’s best tweed caps in the dustbin, and the one before had inspired me to present my sou’wester to the postman. I then splashed 10s on a waterproof cap, replete with a neck apron and ear flaps. When it is fully rigged, I look like a cross between a hoopoe and a Bisley prize-man. When it is furled, I look such an appalling little tick that a newsboy would never call me ‘sir’ if I gave him half a crown for a Star. Will somebody please design a headgear that will keep us moderately dry without making acquaintances ashamed to recognise us in the street? Incidentally, my expensive purchase does not ward the stinging raindrops off my eyes, nor yet stop icy

rivers from trickling down my back. Its sole merit is that you can wear it more than once without its losing all semblance of being a cap. I ought to add that I had to purchase it by post, since no local garage or tailor had ever heard of the kind of maniac who takes a motor cycle out when rain is falling.”

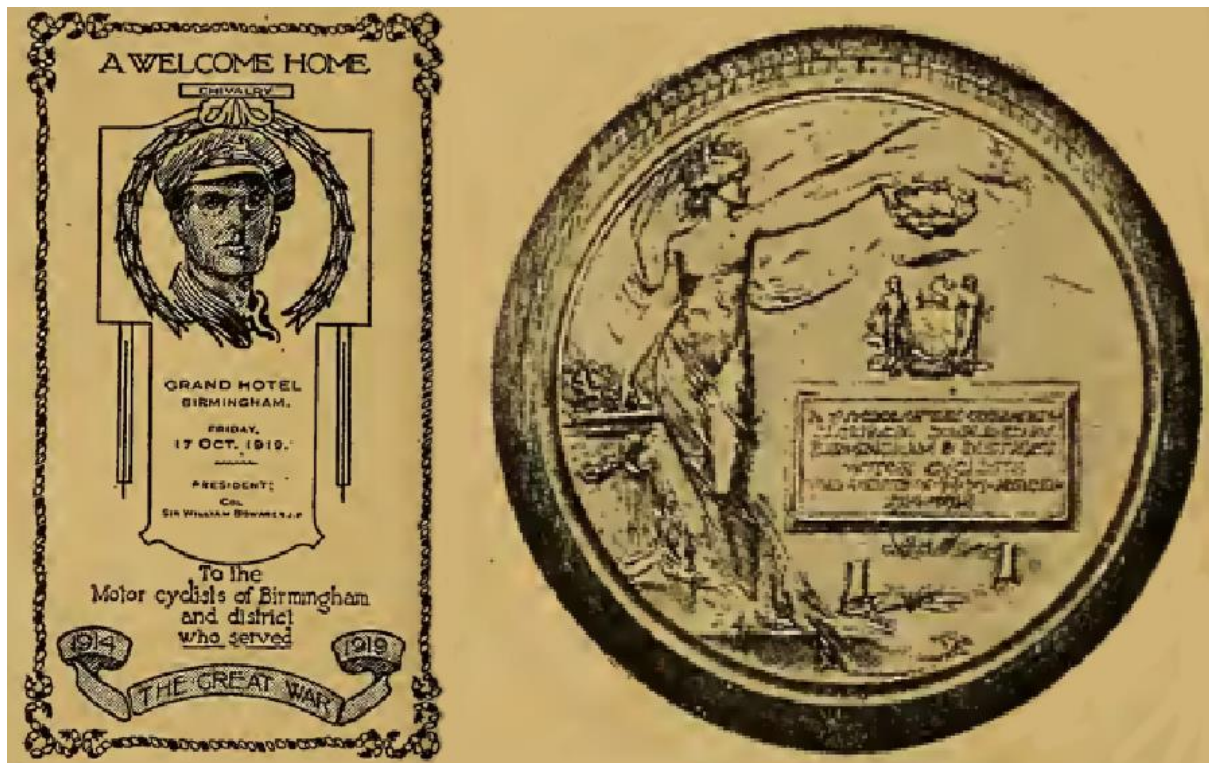


“Extraordinary enthusiasm is shown by the American public in motor cycle speed events. A big crowd witnessed the start of the 200 miles ‘World’s Championship Race’ at Marion, Indiana, when riders of Harley-Davidson machines secured the first three places.”

“SINCE DEMOBILISATION,” IXION REMARKED, “I have learnt that an ex-Army haversack is quite the most precious accessory which a motor cyclist can own...You go down to the golf links, and the wife presses you to buy her a gas mantle as you pass Snooks’s. You are nearing home after the ACU Six Days, and, with a stab at the heart, you recall that you faithfully promised to bring home a Belgian hare or two white rats for sonny. You go to pay a filial call on your aged mother, and reflect that, as she lives in a country cottage, you really ought to take her a slab of salmon. Whilst you are mending a puncture, you see some lovely apples just over the hedge and there is nobody about...You have just packed up everything after unseizing your engine and you spot two spanners and a pair of pliers lying on the turf at the road edge...It is getting dark, and the charge of carbide in the generator is undoubtedly stale, and you have four hours to go; so you buy a pound of carbide. Araminta begins to grow rather peevish on her bracket and asks you to carry her muff or her gloves or her sports coat. All these and many other imaginable circumstances spell ‘Misery’ with a capital M if you are riding your machine under ordinary conditions: but if your trusty haversack is slung round your shoulders, you can put ninety and nine oddments into it, and forget their existence until you dismount. I admit the scent of my haversack is becoming a trifle fruity after three months of varied usage, but I shall shortly give it a dowse with post-war petrol, which is warranted to hot-stuff any other fragrance in quick time.”

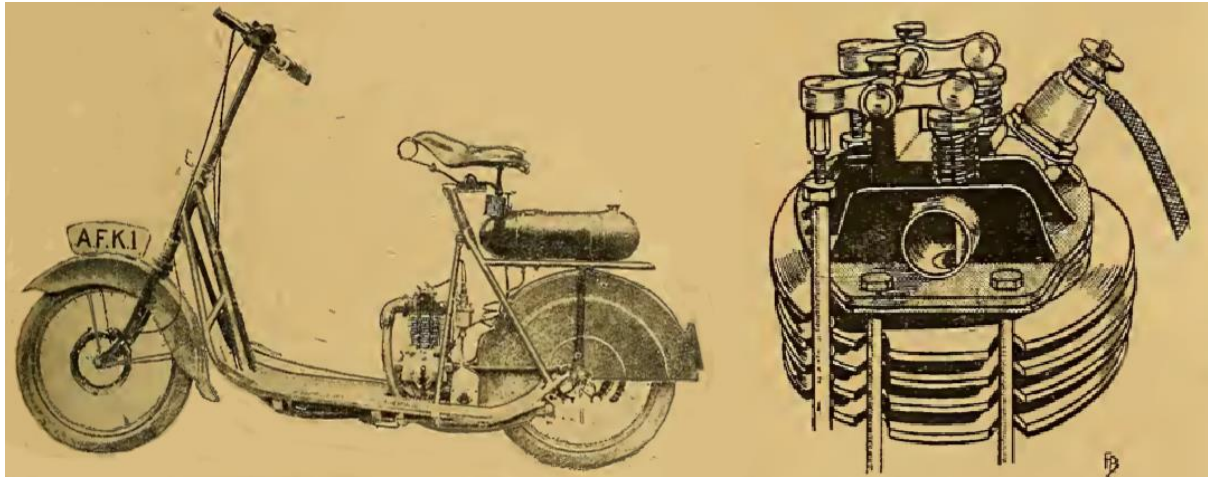


“THE MIDLANDS WERE WELL REPRESENTED by these motor cyclists’ in every branch of the services fighting in the great war...two hundred of those who had returned were entertained at the Grand Hotel, Birmingham, by a committee representative of the sport, pastime, and trade in the Midlands...this was more than a reunion of local motor cyclists, although, even as such, it was undoubtedly a great success. What impressed us more was the significance of such a meeting—a further proof that motor cyclists form a fraternity such as does not exist among participants in any other pastime—and proof, too that the brotherhood’s part in the war has not been, and will not be, forgotten by those who ‘stayed at home’. Representatives of all grades of the motor cycling public were present but all were motor cyclists, and that was sufficient, for such is the fraternity of motor cyclists that class and distinction of any kind are not recognised. The man who, before the war, saved enough to buy and run a second-hand machine of ancient make and the owner of perhaps a stud of machines de luxe had common interests; motor cycles before the war, motor cycles during the war, motor cycles of the present and the future. Many of the guests bore scars of battle, some were maimed, a few disfigured. When the company rose to drink a silent toast to those who had fallen, one was reminded that the sport of motor cycling had lost many enthusiasts who had helped to make the modern motor cycle the efficient war machine it proved itself to be.”



“The cover of the menu designed by S Kempson Jones—one and also a guest of the committee. A 6in plaque was presented to each guest—a handsome souvenir inscribed ‘A symbol of the courage and sacrifices displayed by Birmingham and District motor cyclists who served in HM Forces’”

“MANY HAVE BEEN THE DESIGNS OF MOTOR SCOOTERS since the first idea of elaborating a foot-propelled machine set the ball rolling. A considerable amount of controversy has also arisen with regard to the most suitable position for the power unit, and some designs have suffered through the weights and stresses being unsuitably distributed. A sound method of construction, however, has been adopted by WGC Hayward and Co, of Twickenham, who have based the design of the Whippet scooter on motor cycle principles. The foremost of the many features incorporated in the design is the 1½hp four-stroke engine, which is mounted in front of the rear wheel, and protected by a collapsible wire cowl. An aluminium cylinder, machined all over, is shrunk, on to a steel liner, and mechanically operated overhead valves are housed in the cast iron detachable combustion head, which is securely held in position by four long bolts. A patented exhaust lift or half compression device is incorporated, which consists of a shaft sliding within the cam wheel bush, and provided with a small cam which can be removed beneath the exhaust valve rocker...The chassis is constructed of twin steel tubes throughout, and domed front and rear mudguards are provided. Internal expanding brakes are employed, that fitted to the front wheel being operated by a Bowden lever on the wide handle- bars, whilst the rear is foot-operated. During the searching tests to which it has been subjected, the Whippet is said to have exceeded 25mph, and has carried three persons up a gradient of approximately 1 in 6.”

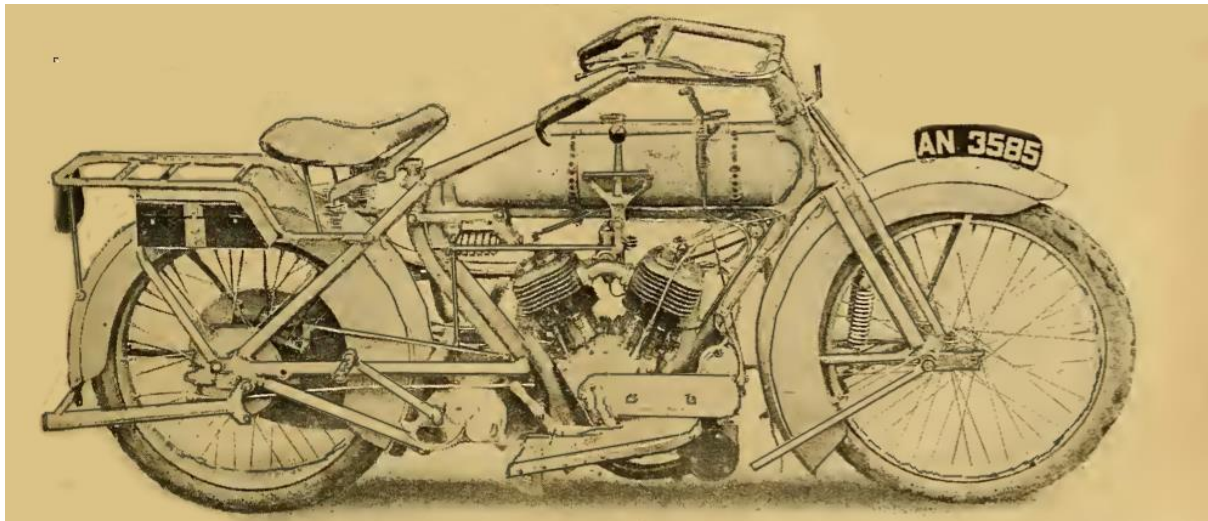


“The Whippet scooter is of the ‘sit-down-to-ride’ variety. The 1½hp overhead valve engine is normally protected by a wire guard. Cylinder head and overhead valves of the Whippet 1½hp engine.”

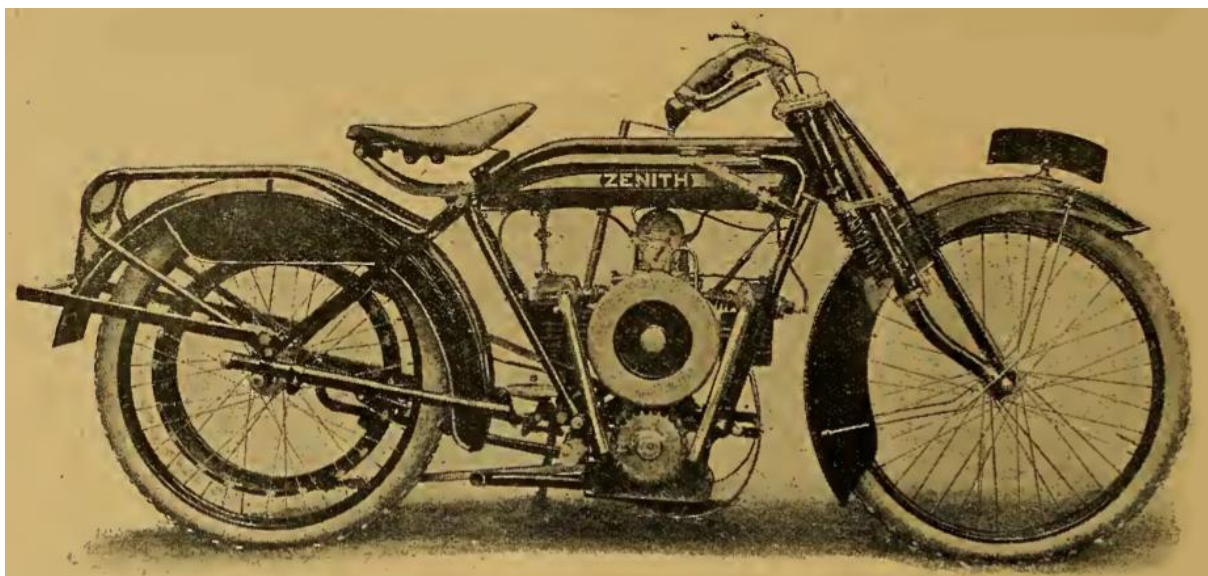
“A ROAD RACE, WHICH CARRIES with it the title of championship of Spain, took place on the 12th inst, over a distance of 404 kilometres = 250 miles. The winner rode an Indian, and completed the distance in 5hr 58min 50sec, which is equal to an average speed of nearly 42mph. The second man, also on an Indian, averaged 38mph; and the third man, on a Motosaeoche, 34½mph.”

“A FIRM OF HIGH REPUTE is requiring good riders for tlie next T.T. Race. Amongst demobilised despatch riders there are, no doubt, many qualified riders who are capable of putting up a good showing in this strenuous race. If any motor cyclist, however, with army experience or not, has the necessary credentials which might qualify him as a likely candidate, and will send full details of his experience to the Editor, his letter will be forwarded to the firm in question.”

“IN ADJUDGING A TRICYCLE propelled by an Auto-wheel to be a motor car, the Lord Chief Justice said he was bound by definitions in the Statutes to regard a tricycle propelled by an Auto-wheel as a motor car, ‘though,’ he added, ‘if I had to decide for myself I should think it would be perfectly absurd to call such a machine a motor car. In deciding that it is a motor car I cannot help myself. If I could, I would. This decision may raise other difficulties which have been pointed out to us by the respondent. He will have to carry side lights, and a number plate in front, and a number of things which are properly applicable to a motor car, but which by no effort of imagination can be considered appropriate to a carriage of this description.”



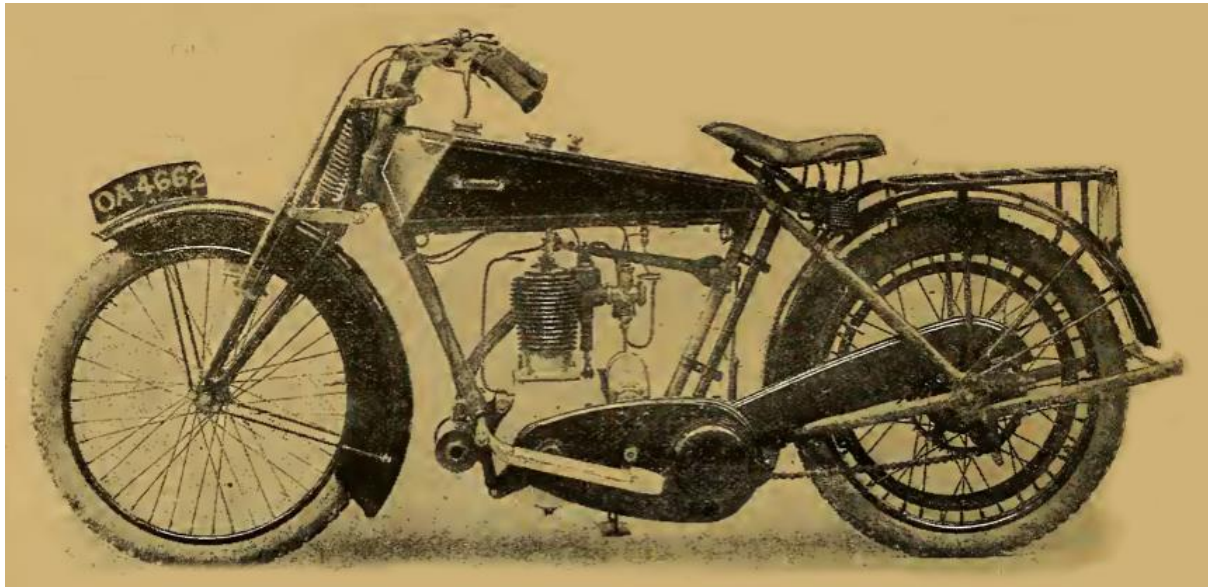
Bat bounced back to civilian production with a brace of JAP-powered twins, rated at 8hp (pictured) and 6hp. “The old and long tried system of springing is retained, which consists in isolating the seat-pillar and footboards from the rest of the frame, the shocks being absorbed by a coil spring in tension.”



Zenith designer Freddie Barnes, the brains behind the Gradua infinitely variable transmission, came up with a tidy 2¾hp 347cc flat twin, described by *The Motor Cycle* as “an ideal motor bicycle of medium weight for the motor cyclist—young, middle-aged, or old—who needs a machine which is lively, comfortable, and flexible.”

“THE QUADRANT MOTOR CYCLE REQUIRES NO INTRODUCTION to our older readers, who may recall that Quadrant machines were among the pioneer designs. To those who have recently joined the ranks of motor cyclists, or are as yet only potential buyers, the name may not be so well known. With greatly increased production facilities, and with machinery laid down for the manufacture of war material, the Quadrant Co re-enter the motor cycle industry in a much larger way than before. Big singles are the chief propositions for next season, for Mr T Silver, who has been associated with Quadrants

since 1903, firmly believes in the simple and sturdy mount, both for solo and sidecar use. The first of these models is on more or less conventional lines, having a single-cylinder engine with a bore and stroke of 87x110mm, the capacity being 654c. It is what may be described as a 'hefty' single, but the machine is nicely proportioned, the weight well distributed, and it has a low saddle position, and thus should be easy to handle as a solo machine. For sidecar use the engine will be found quite up to the work as regards power...A larger engine of 780cc capacity is used in the second model, which has a bore



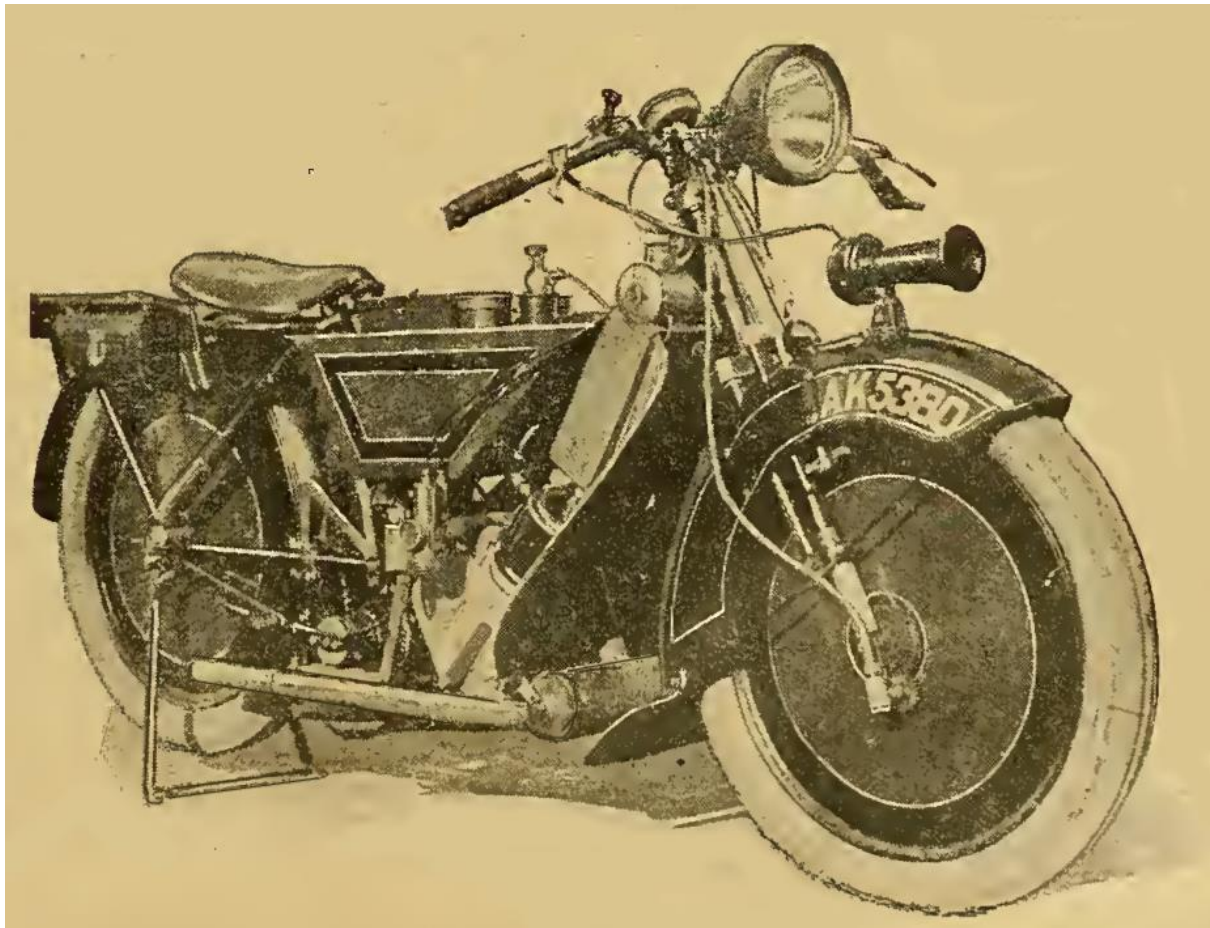
"The smaller of the two new Quadrant 'big singles'. This model has a bore and stroke of 87x110mm, 654cc capacity."

and stroke of 95x110mm, and this is built integral with a three-speed gear of the sliding tooth type. The engine portion of the unit is similar to the smaller model, but the camshaft is enlarged and made to serve as the layshaft of the gear box, and a wheel in the magneto drive train also serves as the primary transmission...Exceptionally large valves are used, their diameter being no less than 2in...It will be fitted in a frame similar to that employed in the 654cc model, but in this machine the clutch will be in the rear hub...the tank is of the saddle type, fitting over the top tube and carried on platforms on the horizontal member. This tank construction makes what to all intents and purposes is a pair of tanks with a common head. This is to say that, excepting when the tank is quite full, the fuel is carried in two separate compartments—the 2½ gallons being drawn off by means of a two-way tap...The third and last Quadrant proposition is a scooter. It has a saddle and a one-gallon tank, and is just as much a miniature motor cycle as it is a scooter...The design is well thought out, embodying a Quadrant spring fork and an open frame, upon which is carried a well-sprung platform. The 2hp two-stroke engine is located below the saddle, and drives directly to the rear wheel by a chain. Over the wheel the frame is built up to form a carrier, in which is carried a tool-bag and a tank holding a gallon of fuel. Two brakes are fitted—a pair of conventional shoe brakes on the front wheel and a block brake acting on the flywheel of the engine."



“The engine-gear unit of the larger Quadrant model, which has a bore and stroke of 95x110mm=780cc, the largest single now made. The Quadrant scooter, a 2hp-engined miniature motor cycle, designed as an all-weather run-about machine. Diagrammatic view of the 780cc Quadrant gear box, which forms a single unit with the engine. Note how the lay shaft is utilised as the camshaft.”

“AN UNUSUALLY SMART MOUNT WAS RIDDEN in the recent Scott Sporting Trial by RW Stanfield. [It was] largely designed to conform to the tastes of its owner...the chief deviations from the normal specification take the form of alterations to the petrol and oil carrying systems, the adoption of dynamo lighting, and the fitting of TT bars of very racy shape, and disc wheels. The usual petrol tank encircling the saddle tube is discarded, and the whole of the open frame filled with a large, flat-topped and extremely wide tank. This contains an oil compartment, so doing away with the necessity for embodying the filler cap in the seat pillar as is done on the standard models. By means of this arrangement it is possible to use a Brooks saddle, which ‘sits’ very much lower on to the frame than is normally possible. Switch box, hand-pump, and twin drip feed lubricators are mounted on the tank top, which presents quite an imposing appearance. Electric lighting is carried out by means of a Lucas dynamo set. This is driven from the magneto chain; the magneto being placed much higher than usual, and the dynamo sprocket arranged to act like a jockey wheel on the chain. An electric horn, fitted on the front guard extension adds finish to the general appearance. A plated exhaust pipe, wide TT bars almost level with the head, and wheel discs, are all conducive to the general raciness. Despite the weight, which is much greater than that of a standard model, a speed of 55mph is possible. The usual Scott purple and black finish is used.”

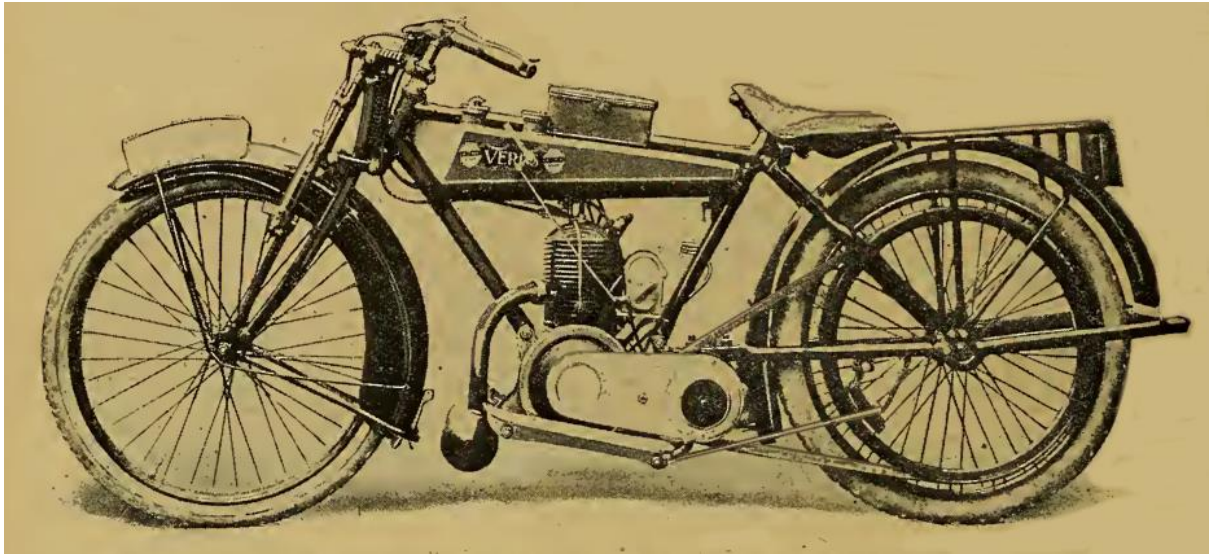


“A Sporting Model Scott, which was ridden in the recent Scott Trial by RW Stanfield. Dynamo lighting and many modifications from standard are noticeable.”

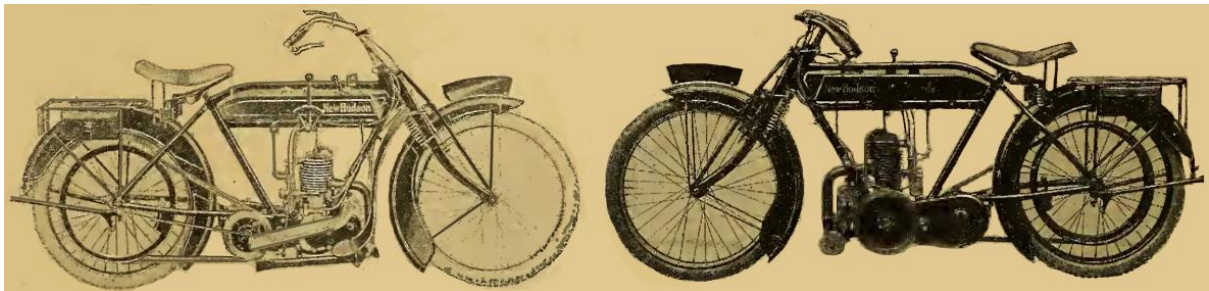
“SIR,—RE GEAR CHANGING WITH THE FOOT. There is no wobble, and the bicycle can be driven without taking one’s hands off the handle-bars, except, of course, to work the oil pump. This applies more particularly to the Triumph 4hp, and all bicycles fitted with the Sturmey-Archer countershaft gear and hand clutch. To use the gear in this manner, the gear lever must be adjusted until the ball of the lever, when the gear is in low, is just over the rider’s toe. The ball and about two inches of the lever must now be bent to form a right angle with the rest of the lever. If so adjusted it is very, easy to work...it wants getting used to, but when that is over one appreciates the difference at once. This method of gear changing was very popular among the DRs in France (with whom I believe it originated), when one wanted to hang on with as many hands as possible on the rotten roads. One word about the Triumph in general. It is a marvellous bicycle, and stood up to the work in France rippingly. I rode my bicycle for two weeks on one occasion, and averaged eight hours riding per day, and gave no attention to it whatever. I did not have any mishap, and it was going as well as ever at the end of it, despite the fact that the engine was unrecognisable with caked mud. A truly wonderful bicycle, I think. Usual disclaimer.

OF Gaunter, Lt, RE Sigs. “

OLDHAM, LANCS-BASED BRADBURY, which dated back to 1901, launched a two-speed, 2¾hp 350 that it had been working on during the war. The 1920 range also included updated versions of the pre-war 4hp 550cc single and 6hp 750cc twin.



After several years' production of a proprietary two-stroke engine, Alfred Wiseman Ltd of Birmingham went into the motor cycle business with a 2¼hp 211cc two-stroke marketed as the Verus. The new range also included a 2½hp 269cc two-speed two-stroke, and 2¾hp and 4hp Blackburne-engined four-strokes.

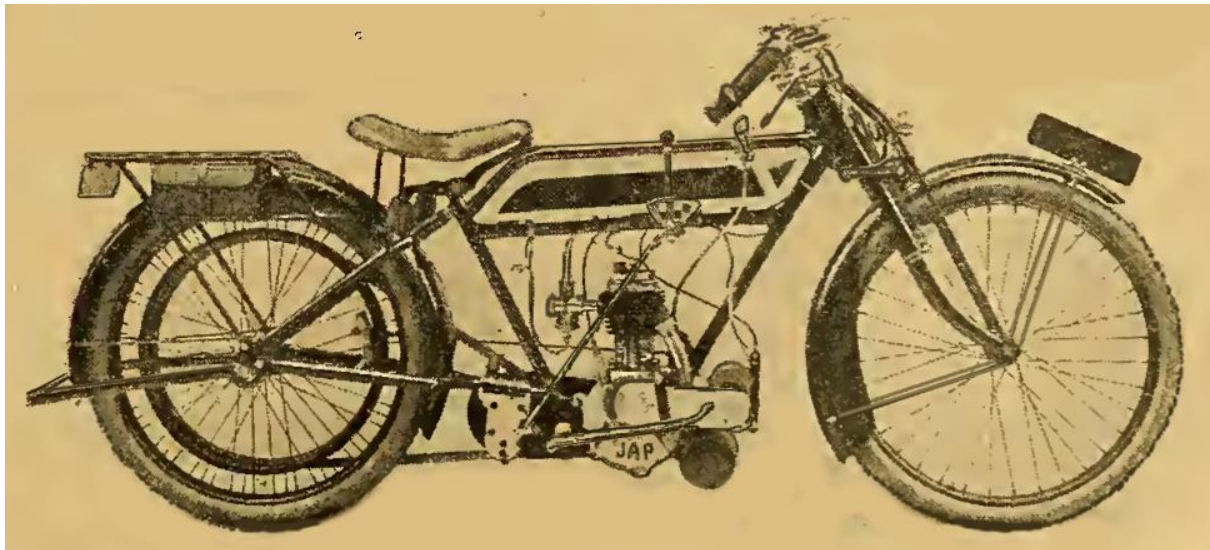


Before the War New Hudson offered a 6hp V-twin; it returned to the market with a 211cc two-stroke offered as a tourer with aluminium running boards, legshields and upturned bars; and a sports model with 'semi-TT' bars and footrests.

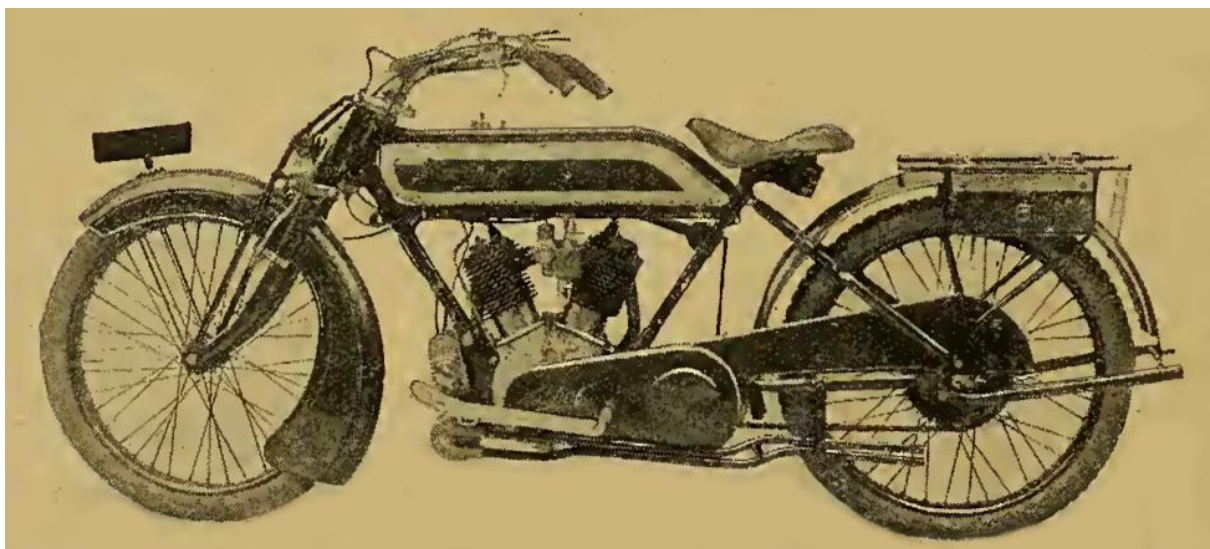
"A SMART ALL-RED LIGHTWEIGHT MACHINE is being manufactured for 1920 by Messrs H Reed and Co, Manchester, makers of the well-known Dot motor cycles. It is a four-stroke model, and is equipped with the popular 2¾hp single-cylinder JAP engine, Amac carburetter, and EIC magneto, the latter having a handle-bar timing control.

Transmission is by chain and belt, through an Albion two-speed box, the gears being changed by a lever at the side of the tank...Saxon spring forks are fitted and the well-raked head and TT bars should render steering particularly safe. Rubber grips are fitted to the bars, and we think that this is a detail which should be universally copied, as they absorb the bulk of handle-bar vibration...The large model Dot is an exceedingly neat looking machine, planned on well-tried lines. It is fitted with the 8hp JAP engine

(85.5x85mm=976cc) and carries an EIC magneto immediately before the front engine plates and above the silencer. The carburetter is an Amac. Transmission is by chains through a Sturmey-Archer three-speed gear box, with the new typ control and the well-known dry plate clutch...The finish of the machine is excellent being in dark red enamel, with a nicel rounded tank panelled in the same red on an aluminium ground."



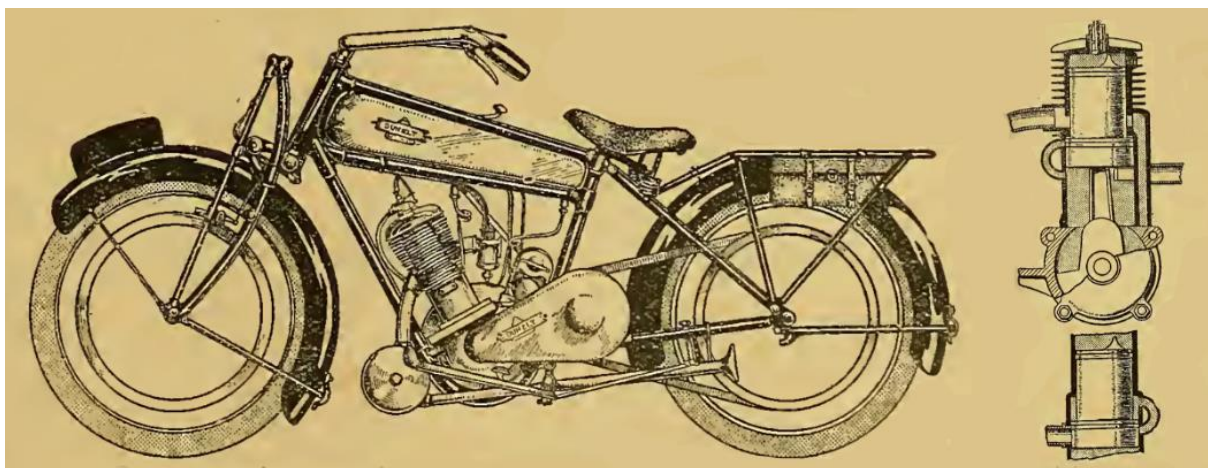
"The new 2 3/4hp Dot-JAP fitted with an Albion two-speed gear and clutch. Chain and belt drive is adopted on this model."



"The 8hp Dot, designed primarily for sidecar use. The engine capacity is 976cc."

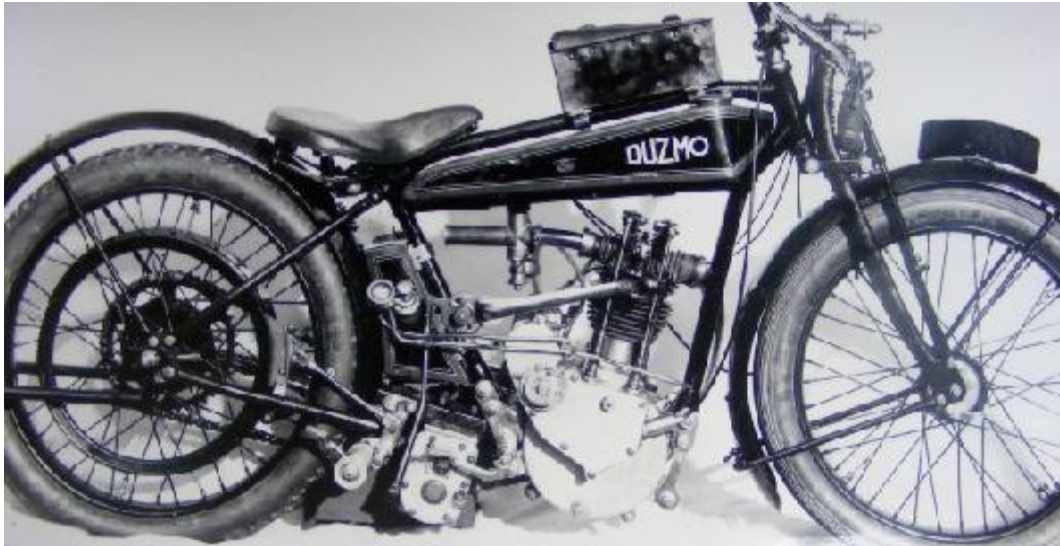
"IN VIEW OF THE PRESENT HIGH PRICE of petrol and the general tendency to experiment with alternative fuels, motorists will be glad to know that the Royal Automobile Club is taking an active part in the development of benzole. At the forthcoming Motor Show at Olympia, London, the RAC has placed a portion of its stand at the disposal of the National Benzole Association, one of whose chemists will be in attendance to advise...as to the immediate and future possibilities of the new fuel."

“THE DUNELT IS THE PRODUCTION of Messrs Dunsford and Elliott, Ltd, large Sheffield steel manufacturers, who have an experimental department in Birmingham...Often the view has been advanced that, with a moderately efficient two-stroke in the neighbourhood of 500cc, the main essential of the Ford type of motor cycle is secured; that with such a power unit it would be possible to produce a machine capable of taking the same place in the motor cycle world as that enjoyed by the famous American vehicle in the field of four-wheelers...Messrs. Dunford and Elliott, recognising the enormous scope for a motor cycle suitable for solo or sidecar work, and which could be sold at a figure approximating to that of the lightweight, decided that only a two-stroke engine could make this possible; but, realising that the efficiency of the small conventional three-port engine would be difficult to obtain in a much larger size, it was decided to ‘borrow’ one of the features of large two-stroke engines which are known to be satisfactory for marine and stationary purposes. This is the truncated piston—a type which is not exactly new to motor cycle practice, though this is the first time we have seen it embodied in a large single-cylinder engine which has been developed beyond the paper stage. By the use of the two-diameter piston, it is possible to send through the transfer passage into the cylinder a charge greater than the capacity of the cylinder...the displacement of the trunk piston being 770cc, while the working piston only displaces 500cc...We understand that 70mpg has been obtained with the Dunelt on the road, so its consumption cannot be said to be unduly heavy. The use of a truncated piston necessitates a larger cylinder than usual, hence the Dunelt engine is quite an imposing unit. The bore and stroke of the working cylinder are 85mm and 88mm respectively, while the diameter of the trunk is 105mm...while unconventional, the design of the Dunelt is extremely clean. The engine is inclined towards the head and drives a neat two-speed gear of the expanding ring type by means of chains, the final drive being by belt. Embodied in the gear box is a kick-starter with enclosed mechanism. The wheels are interchangeable, a brake rim being used on the front wheel exactly the same as that on the rear wheel. Domed mudguards 7in across the beads, a two and a half gallon tank, and aluminium foot plates are included in the equipment.”



“The Dunelt two-stroke motor cycle, a machine designed for solo or sidecar work, to be

sold at a popular price. Diagrammatic view of the engine, showing the truncated piston. In addition to the initial displacement in the crank case, a charge is contained in the space above the trunk, which serves to cool the piston.”



More than 50 marques debuted during 1919; some, inevitably, did better than others. Dunelt, with its own and a range of proprietary engines, would be on the market well into the 1950s, unlike the 496cc ohv Duzmo which was gone within four years.

“MESSRS T&T MOTORS OF 52A, CONDUIT STREET, London, W1, have recently departed from the manufacture of their principal product, the T&T engine oil, and have placed on the market the Silva motor scooter...A small single cylinder engine, having a bore and stroke of 52.5x54mm (117cc) is used, and although it is similar in design to that on the Autowheel, it has undergone no fewer than forty modifications to render it suitable for adaptation to the scooter...Located on the left side of the front wheel is a neat tool box, in which a battery is housed for the purpose of supplying current to the electric head and tail lamps; a switch is also fitted to the side of the tool box. The front mudguard is divided, and by releasing two fly nuts the front half may be removed, consequently reducing considerably the difficulty usually experienced when repairs to the front tyre have to be effected. The rear wheel is equally accessible, a simple drop-out axle being employed...for the additional sum of £1 a seat will be supplied.”



“The silencer and oil sump cast integrally with crank case. The Silva scooter—a clean

design fitted with a four-stroke engine; observe the stand. The neat front and rear lamps fitted to the Silva scooter.”

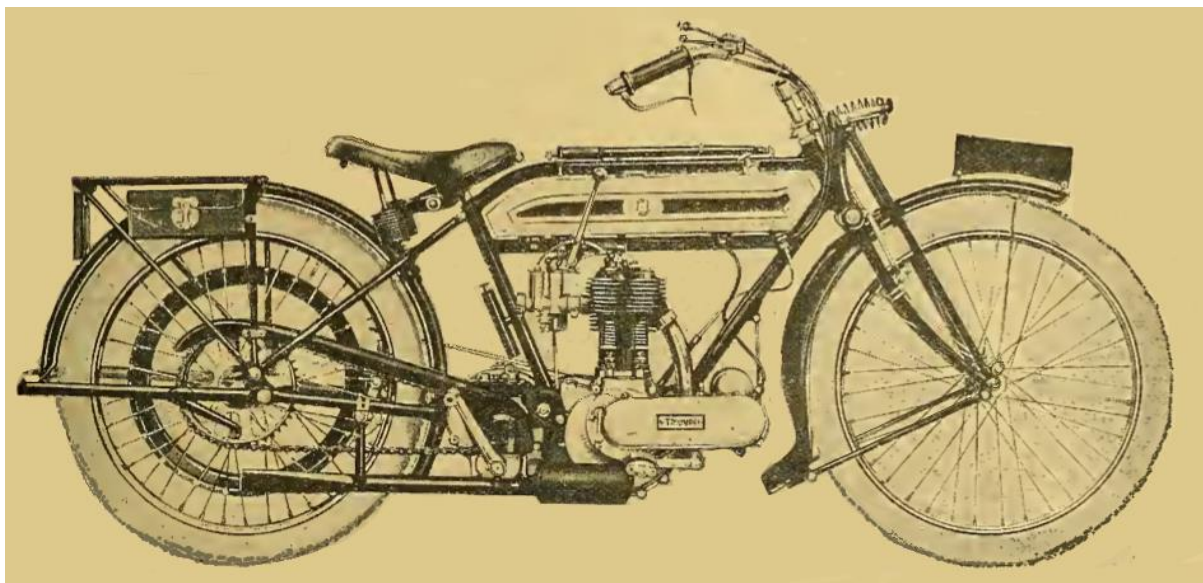
“ITALY, LIKE FRANCE, IS NOW TAKING an extraordinarily keen interest in motor cycle matters, and the trials that are organised in the former country rank in severity with those held here. A long distance run from Milan to Naples was held last week over vile roads, and constituted a twenty-four hours’ trial, as the competitors took approximately that time to cover the distance—540 miles—between the two cities. The finish, which ought to have been at Naples, was at the last moment brought back about fourteen miles to Caserta on account of the impossible state of the roads. Unluckily, this modification caused the two fastest riders to lose their way, and they arrived at Naples instead of Caserta, thus losing the race. They were Maffeis, riding a Motosacoche, and De Leonardi (a despatch rider), on a Sunbeam. The winner, Girardi, rode a 350cc two-stroke Garelli, a new machine which has already competed successfully during the year, and will be put on the market in large quantities at the beginning of next year. It is a two-cylinder monobloc, side by side, placed transversely across the frame, 50mm bore and 89mm stroke to each cylinder. The mixture is taken into the left cylinder, and the burnt gases are exhausted through the right cylinder, as the cylinders are inter-communicating, and have one combustion chamber in common. The two pistons also work simultaneously on a single crankshaft. A great economy is claimed by this system, and it has certainly proved efficient. The gear box (two speeds) is incorporated in the crank case, as is the magneto, which is of special design and completely covered being protected entirely from water, mud, etc. This machine has a lovely purr, quite distinctive from others, and quite a good turn of speed...The three Sunbeams were the only team to finish; they also made a splendid show.”



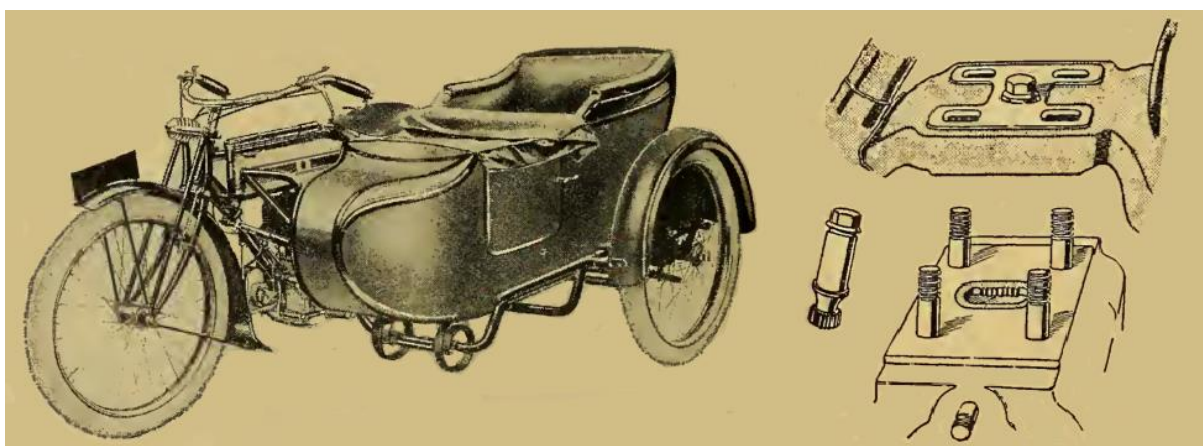
Garelli's debut: victory in the Milan-Naples Raid Nord-Sud.

"THE *EDINBURGH EVENING DISPATCH* of October 23rd announces that on Monday next the Edinburgh & DMC has organised a race for the Palmer trophy. May we once again pray that the reporters of the lay press will desist from the practice of so misnaming reliability trials? Road races are illegal on the public roads of Great Britain, and, in consequence, no motor club arranges such events."

"THE 4HP TRIUMPH ENGINE, WHICH HAS already earned an enviable reputation for reliability and pulling power, both under strenuous war conditions and in everyday use, remains unaltered, save for special bosses on the crank case to provide fixings for the chain case. It is in the transmission that the most important features lie..." For the 1920 season the Triumph gained all-chain drive, an oil-tight aluminium primary chaincase, new three-speed gearbox and a new clutch incorporating an engine shock absorber. "For the first time sidecar lugs are incorporated in the Triumph frame, and a beautifully finished Gloria sidecar, with spring suspension wheel, can be obtained with the machine, in combination form."



“The 1920 4hp chain-driven Triumph.”



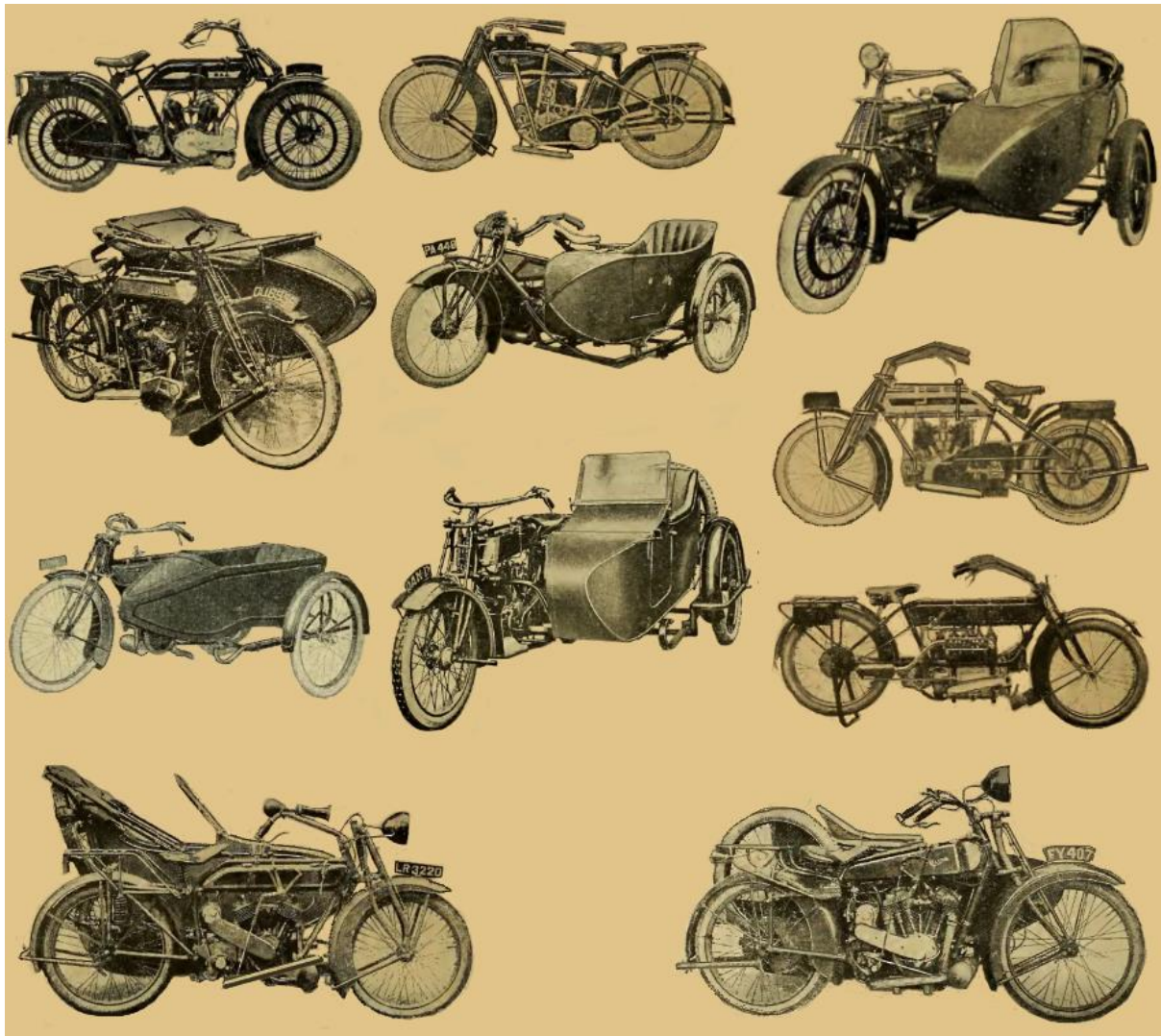
“The standard Triumph sidecar outfit; lugs are formed integrally with the frame on this post-war model. Micrometer adjustment for Triumph gear box—by turning the toothed plug, which acts on a rack in the top of the gear box, a fine adjustment is provided for the front chain.”

“THERE IS EVERY PROMISE THAT BEFORE very long electric lighting will be as general on motor cycles as it is on present-day cars...there will shortly be no reason why every motor cyclist, if he so desires, should not have the conveniences of an electric lighting set, which at present is regarded more as something only the most opulent motor cyclists can afford. Only those who have used an efficient dynamo lighting set on a motor cycle can fully appreciate its great convenience and cleanliness. Practically every car manufactured in this country and in America is catalogued with electric lighting equipment, and most of the motor cycles produced in the USA, too, are so equipped. In this connection, it is interesting to know that a scooter and an auxiliary motor attachment are fitted with a magneto of the flywheel type from which current is available for lighting purposes...At the present time there are many riders who look askance at electrical equipment, especially when it is combined with the ignition, but

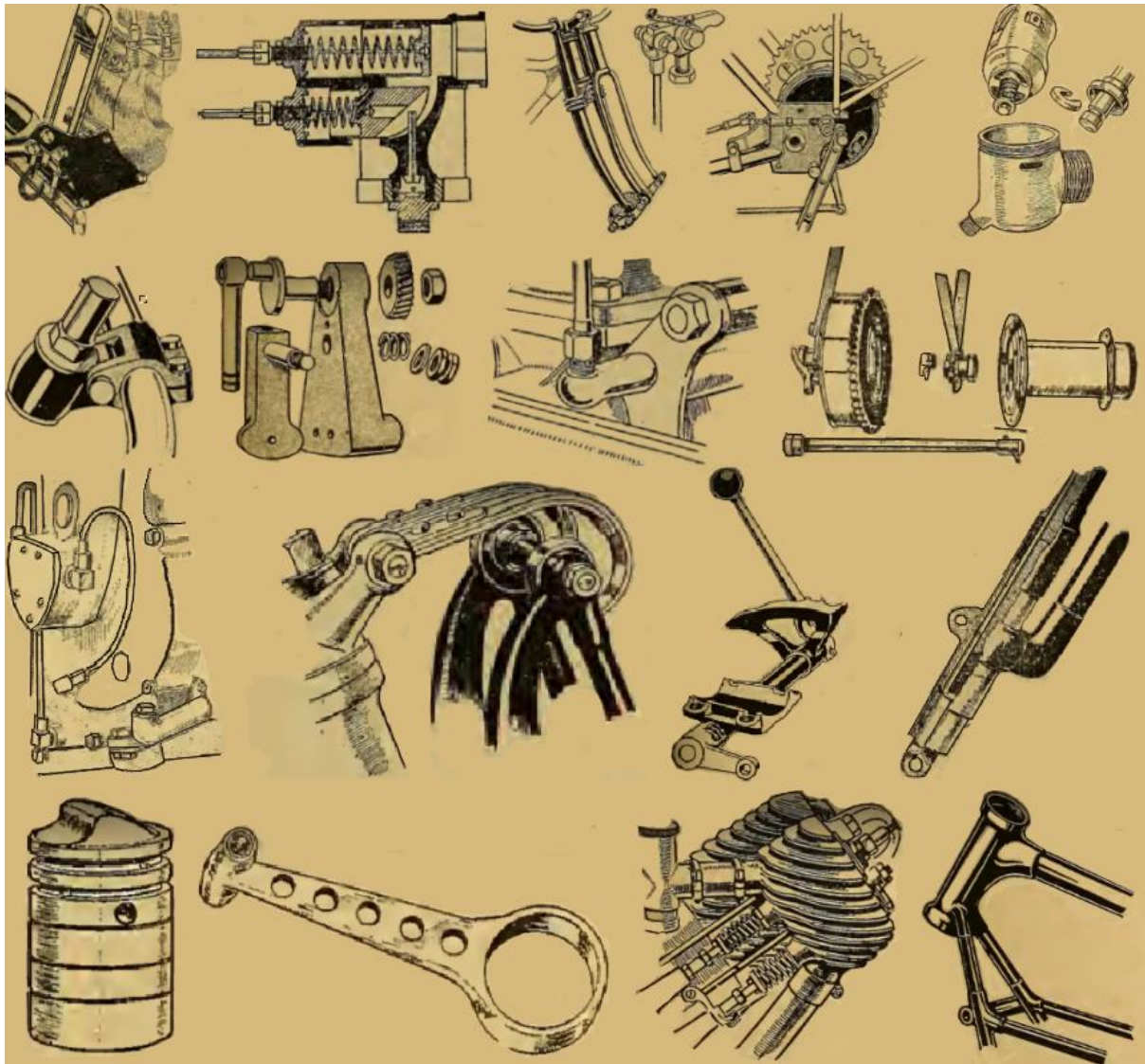
little need be feared on the score of unreliability, especially with some of the later systems which do not depend on the storage batteries for their efficiency.”



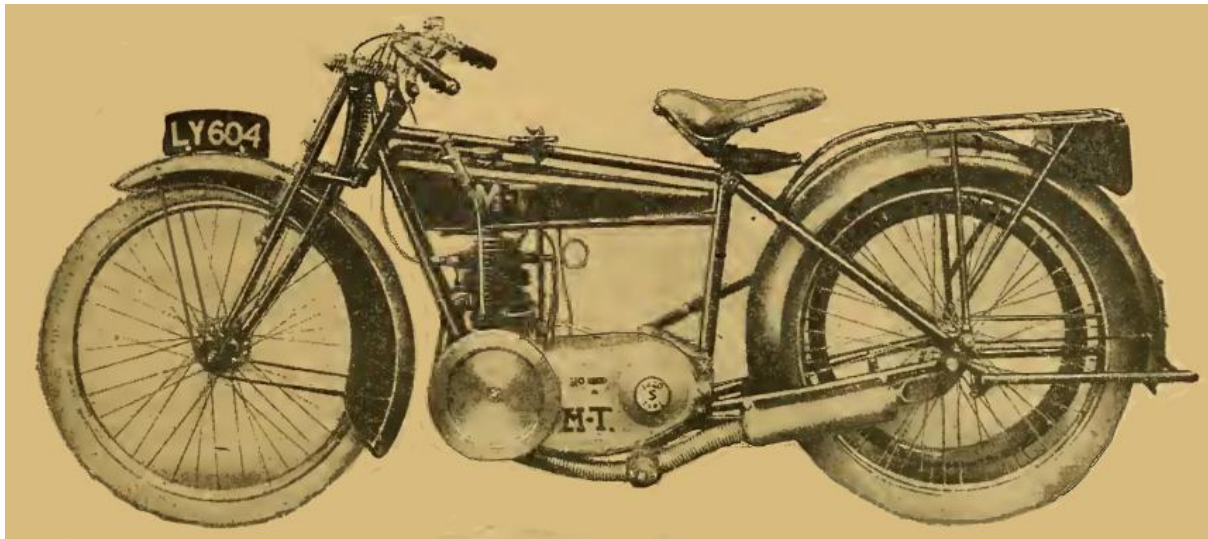
“ANYONE WHO SPENDS BUT A FEW HOURS on a main road cannot fail to be impressed with the number of passenger motor cycles and runabouts that pass. Before the war the greater number of motor cycles were ridden solo, but the passenger machine has been steadily increasing in popularity until at the present day there are comparatively few motor cycles designed for solo work only, excepting, of course, lightweight two-strokes and a few four-strokes...a very large section of the community has come into touch with things mechanical during the last five years, and has been bitten with the fever, as might be expected. Undoubtedly, light three and four-wheelers are the cheapest form of travel for two, and the freedom of the road has an attraction which must be experienced to be realised. A week end in the country is an easy matter for the owner of a modern motor cycle, and if he is a family man it is wonderful how many of the family can be accommodated on a motor cycle and sidecar.”



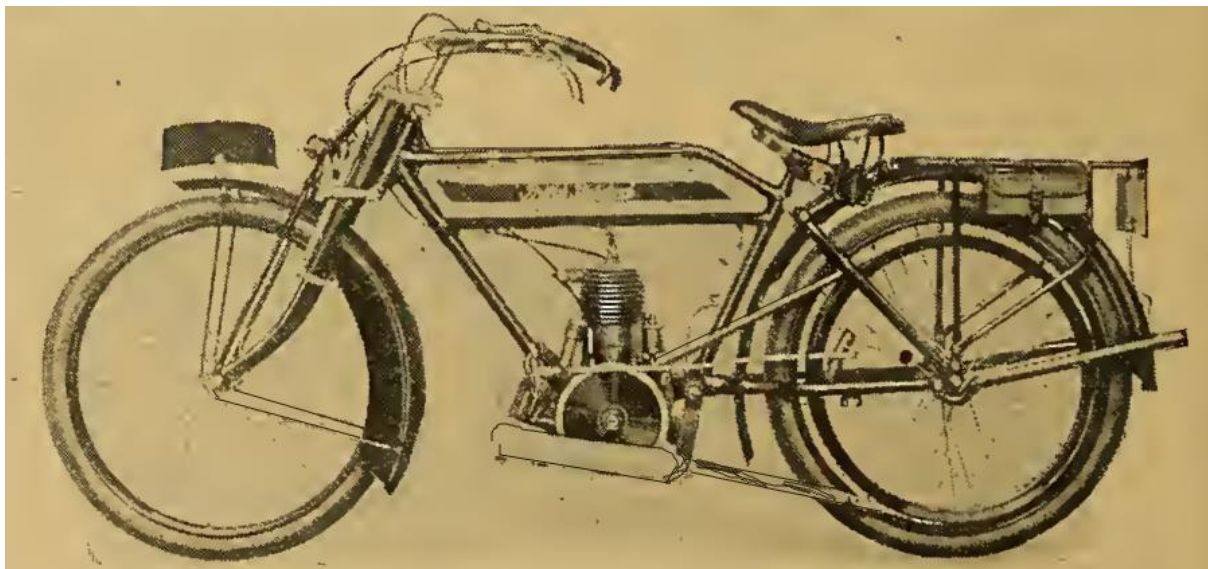
Here's a selection from the Blue 'Un's review of passenger bikes, which ranged from 350-1,170cc: BSA 770cc 6hp; Reading Standard 1,170cc 10hp ("the motor has shown 16hp on the brake"); 1,003cc 8hp IOE Motosacoche with MAG engine and "three-speed gear of the Enfield type"; 795cc 6-7hp Ariel; 398cc 3hp ABC ("Although designed primarily as a solo machine, the ABC has proved itself well able to take a sidecar); 350cc (Precision two-stroke) Ixion Sidecarette "miniature sidecar outfit"; 748cc 6hp AJS; 5-6hp Lincoln-Elk; 748cc 7hp FN ("the influence of the FN four-cylinder machine upon ultimate design will only be fully appreciated by those who know the number of firms experimenting with four-cylinder motor cycles at the present time"); 976cc 8hp Matchless ("The outstanding novelty of Model H lies in the spring frame, which embodies a system of coil springs, so designed as to give an exceptionally large movement to the rear wheel"); 925cc 8hp spring-frame Clyno ("long anticipated as one of the out-standing machines of the few new designs produced since the end of the war").



The Motor Cycle's artist scoured the Olympia show for technical innovations: "The spring stand of the Coulson B motor cycle; A patented carburetter designed for use in the Cedros two-stroke; Some details of the new model four-cylinder Henderson, (Left) The front forks, showing the triple plate construction of the main fork crown, (Centre) Pivoted spring clip for protection of oil holes in bearings of overhead inlet rockers, (Right) Details of expanding and external rear brakes and position of sidecar connection; Features of the new JES auxiliary motor—the floatless carburetter and the valve fixing; How the Rex adjustable handle-bar is secured; The BSA oscillating pump dismantled; On the 1920 Sparkbrook the oil is led to the engine through a hollow engine bolt and a duct in the crank case casting; The Chater-Lea detachable hub used on No 7 model; The oil pipe connections of the new 4½hp Humber; A new type of fork springing employed on the OK; The gear control of the new chain-driven Triumph; The 1920 Scott front forks; Piston and connecting rod of the new Metro-Tyler engine; The newly designed P&M cylinder has horizontal radiating flanges; The Raleigh head lug and sidecar connections."

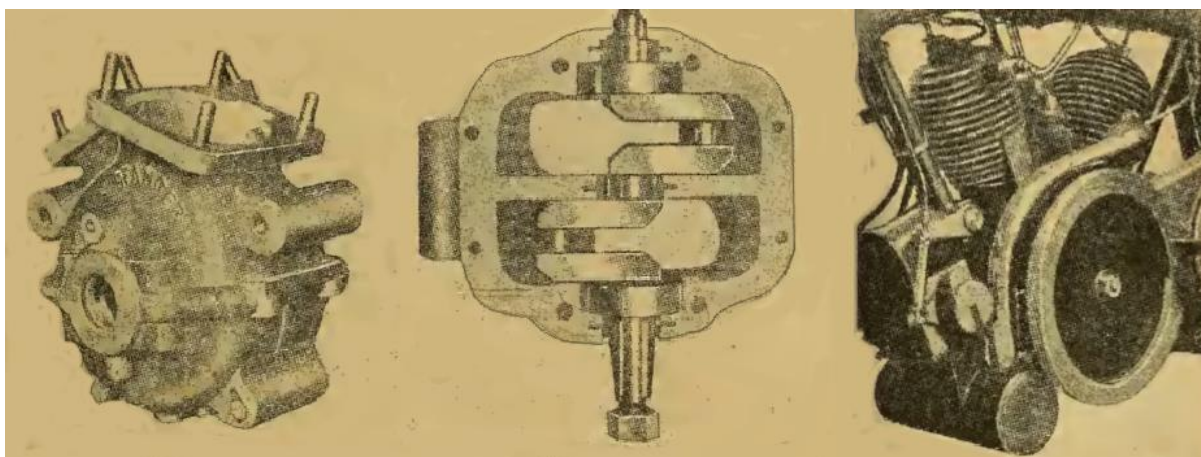


Metro-Tyler concentrated on a single model for the 1920 season: a unit-construction 2½hp two-stroke.



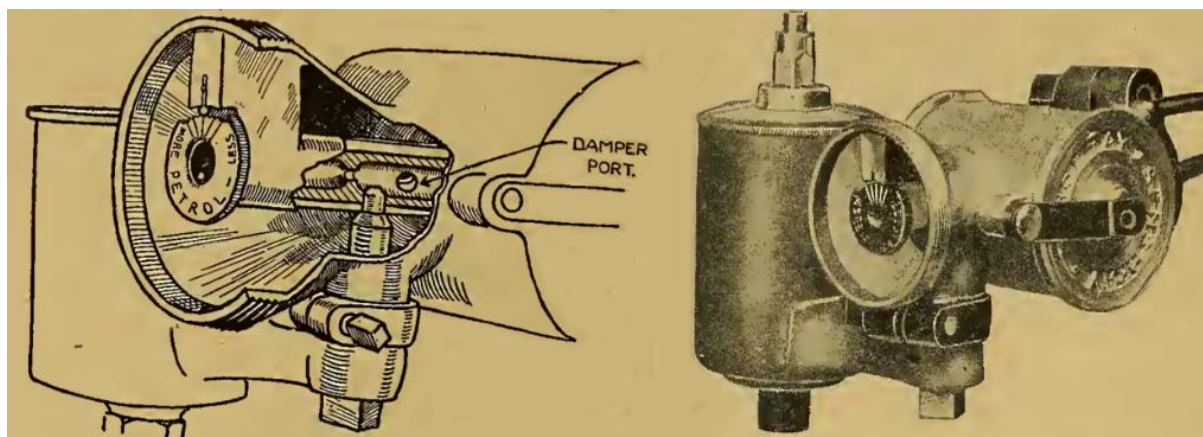
“A lightweight is to be marketed direct to the public. The engine is a 2¾hp. two-stroke, and the equipment includes Saxon or Brampton forks, 26x2in Palmer tyres, and aluminium footboards. The price, £43, includes lamps and generator. The makers are British Standard Motors, 145, Lichfield Road, Aston, Birmingham.”

“THERE HAVE BEEN SEVERAL V TWIN two-strokes designed and made, but, for reasons known only to their sponsors, they have not been placed upon the market. Among the exhibits at Olympia, however, a new 5hp two-stroke engine will be staged by the Trotman Patent Dandy Co, a firm of paper makers’ engineers at Wood Green, London. Designed by an engineer, whose experience with motor cycle engines goes back to the year 1897, when he designed and constructed the 2¾hp Stanger quad, the engine under review is of the conventional three-port type, and can be fitted in any motor cycle frame which accommodates present-day engines.”



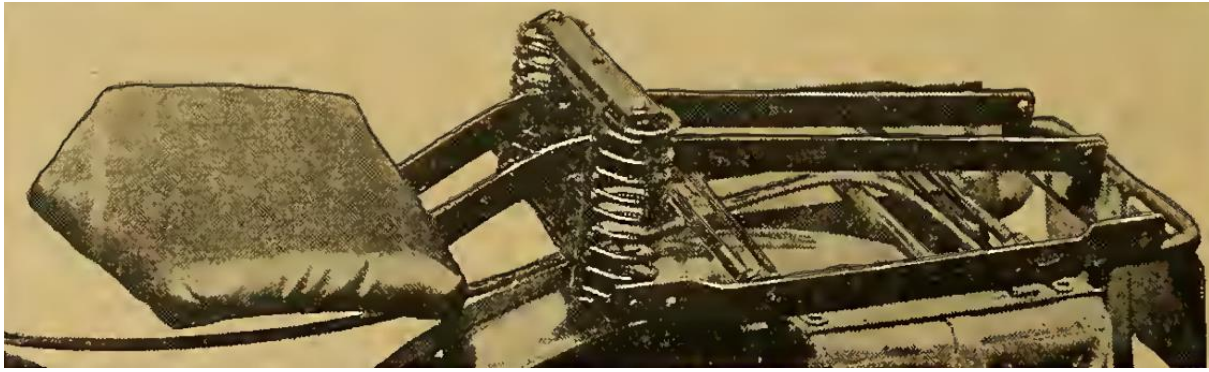
“Exterior and internal views of the Stanger twin two-stroke engine. Flywheel side of the Stanger two-stroke engine, a twin of 5hp, having five working parts.”

“LATTERLY THE NAME SENSPRAY has been rather less to the fore than it was wont to be, for in pre-war competition circles it was almost impossible to witness an event in which this famous carburetter was not fitted to some of the most successful machines. The makers, Charles H Pugh, Ltd, of Tilton Road, Birmingham, have not been idle, however, and a tour of their works at once indicates the reason for their absence from the motor cycle world during the past season. On every hand, in their extensive shops, one sees huge stores of giant aeroplane carburetters, and it is owing to the Government’s requirements in this direction not yet being filled that the manufacture of motor cycle instruments still remains in abeyance. A new type has been evolved, however, and early in 1920 it is expected that it will be placed upon the market, and a short test on a machine fitted with one of the first examples demonstrated the fact that it has many desirable features. In the old Senspray carburetters the action was practically automatic, and, if tuned for maximum power and speed, the petrol consumption was rather high at low speeds. The present type, by a very ingenious modification, can be made sensitive, semi or fully-automatic at will accordingly as the rider prefers full automacity (one lever control) or maximum fuel economy (involving use of extra air lever when picking up or climbing)...We were informed that, between the extreme settings, when used on a standard 85x88mm engine, the consumption varied from about 90mpg to 107mpg.”



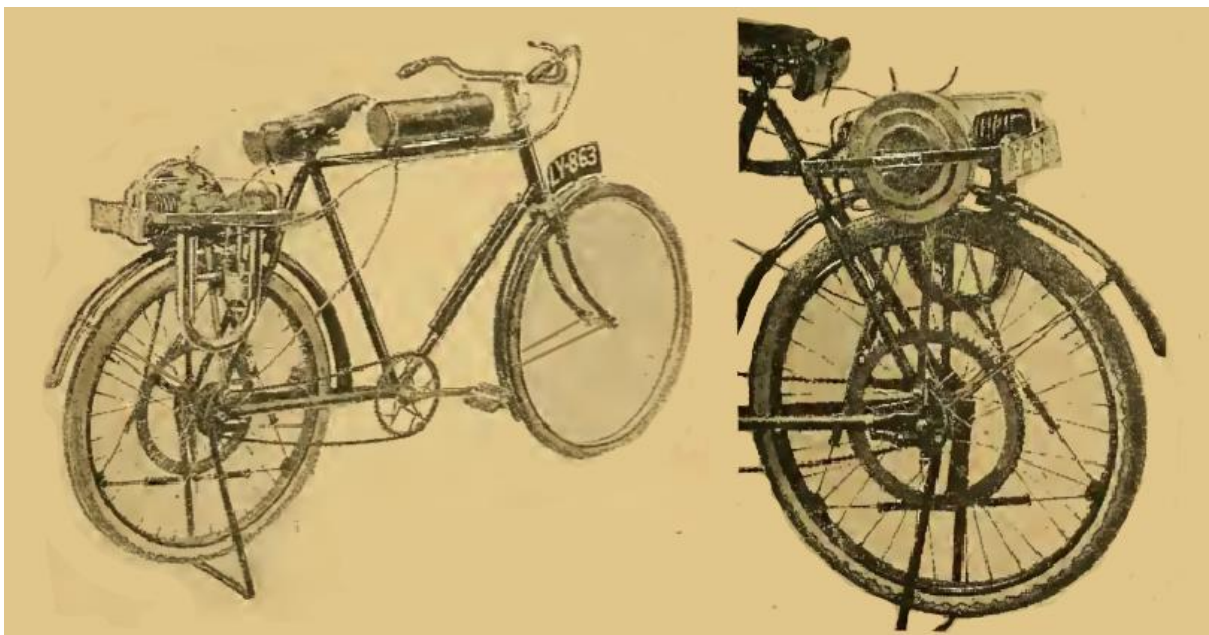
“The new Senspray carburetter, which has a cast aluminium body with readily detachable end caps. A vertical model is made to suit certain V and horizontal twins. A part section of the new Senspray vaporiser, which can be rotated, thus opening a damper port which decreases the suction on the jet, and makes the carburetter sensitive to the air control.”

“THAT OVER 15,000 TAN SAD PILLION SEATS have been sold during the present year is sufficient proof of their popularity, and, apropos the discussion regarding the danger of pillion riding, the principals of the Tan Sad works advise us that they have yet to hear of the first accident where one of their sprung seats has been used...For 1920, the pillion seat has undergone several improvements, including an upholstered top in place of the loose cushion, and the springs are shorter, which makes the seat much neater, and a combined rear lamp and rear number-plate have been added to the range...Probably the most interesting addition is the new spring seat for the driver...a seat being carried on the forward ends of two levers which are anchored to the rear part of the carrier and are supported by coil springs about midway, ie, to the rear of the seat, which follows the lines of a chair seat rather than a saddle...a second unit can be fitted to the seat, in the form of a pillion seat, which utilises the same springs at the front as support the driver’s seat, and has springs of its own at the rear. If the space at the rear is to be used as a carrier, then an alternative unit is provided, thus giving the motor cyclist a sprung platform...From a short road test on a solo machine over terribly pot-holed roads, we formed the opinion that the new driver’s seat would become as popular as the 1919 Tan Sad pillion. It was extremely comfortable, and created a new sensation unlike that associated with a spring frame or an ordinary saddle.”



“A novel form of saddle springing introduced by the Tan Sad Works.”

“THE JOHNSON MOTOR WHEEL IS ANOTHER of the many ingenious attachments which have been brought out to motorise the pedal cycle, and is one of the most practical we have seen. The outfit consists of a special wheel, a stand, and a motor unit with tank and controls. To fit a pedal cycle with this device merely necessitates the removal of the existing wheel, the insertion of the special wheel, and the attachment of the stand and power unit. The wheel is rather stronger in construction than the ordinary one, and is provided with a sprocket loosely mounted on to the hub, the drive being taken through springs anchored to brackets riveted on the wheel rim. The whole outfit, it is claimed, can be fitted to a pedal cycle in the space of one hour. A two-stroke flat twin is the power unit, lubricated on the petroil system. One of the most interesting details is the magneto, which is built into the flywheel and works on practically the same principle as the Ford magneto...From the magneto there run two wires to the plugs and a thinner wire for illuminating the head and tail lamps...A simple form of automatic carburetter is fitted, which is provided with an exhaust muff so that sufficient heat is obtained to vaporise the fuel in the coldest weather.”

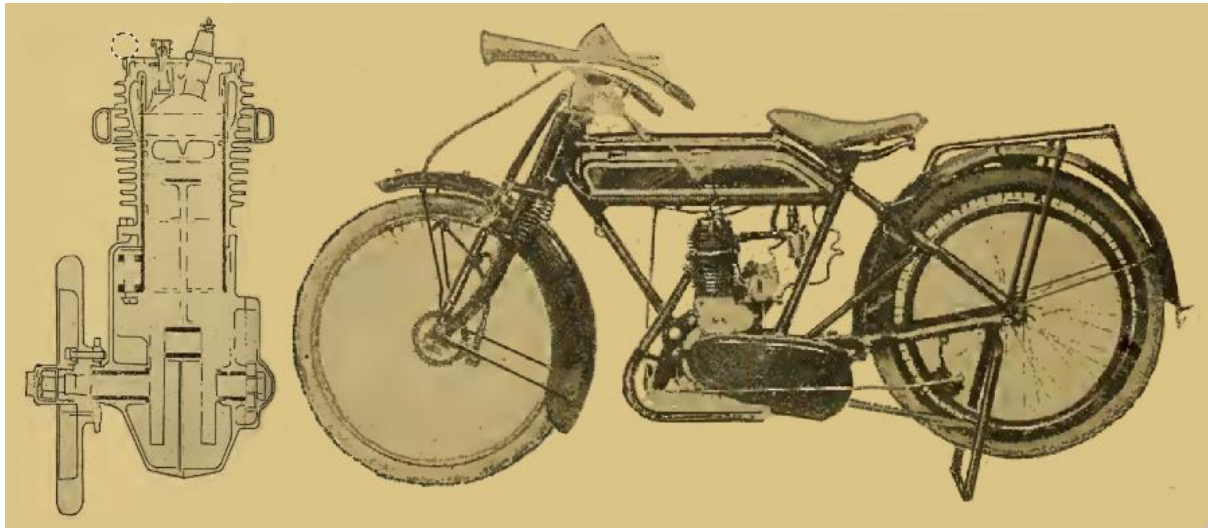


“Exhaust side of the Johnson motor wheel. Note the design of the exhaust pipe and the

hot air intake to carburetter. (Right) Flywheel side of the Johnson motor wheel The loose wire above the flywheel leads the current to the lamps.”

“IT HAS LONG BEEN A SOURCE of wonder to motor cyclists that the sleeve valve engine has not been adapted to motor bicycles...Yet up to the present time little has been heard of an engine of this pattern being made of a size and type suitable for the popular little vehicle in which this journal is especially interested. It may be argued that the poppet valve engine universally fitted to motor cycles is so satisfactory that nothing better is required...Yet there is something wanting, something we have advocated for years, and that is silence. To silence the exhaust is not difficult, but to render innocuous the rattle and din proceeding from valves, cam and timing wheels is not easy without interfering with the efficiency of the engine...Such noises are more wearing to the nerves on a long run than the regular patter of the exhaust...Now the sleeve valve engine has no valve noises. It can equal the poppet engine as regards power, it needs less attention as there are no seatings to be ground, and if it be proved that the moving parts wear well and that the sleeves do not seize it has a future before it which is full of promise. It is most gratifying to be able to make the first announcement that Messrs Barr and Stroud, Anniesland, Glasgow, have turned their attention to an engine of this type...The Barr and Stroud engine is the first air-cooled, single sleeve valve motor the making of which is to be taken up seriously. It is made under the Burt and McCollum patents, which cover the engines formerly fitted to the Argyll car, and now used on the Piccard Pictet. The bore and stroke respectively are 70x75mm (290cc), and the engine is rated at 2¾hp...In outward appearance the engine strongly resembles a two-stroke, chiefly owing to the absence of valves and to the position of the exhaust port castings, while the illusion is still further aided by the fact that it has an outside flywheel, which in future models will be on the transmission side of the engine...we were privileged to make our first trial trip on an air-cooled, sleeve valve engined motor bicycle. The bicycle to which the engine was fitted was of well-known make, fitted with chain-cum-belt transmission and a two-speed gear. In cold and damp weather, a run of about fourteen miles was made over fair roads of an undulating nature, including one fairly steep hill...An attempt to start by paddling off on a slight up grade presented no difficulty, as the engine fired at once. With a view to testing the engine severely, and owing to the greasy nature of the road, no attempt was made to change into high gear for some time. Once clear of the bad road, the speed was increased, and no incident occurred until one of the firm’s experimental staff who accompanied us led the way up a steep hill which could not be rushed. This was taken on low gear and with the throttle fully opened, but on reaching the summit the high gear was engaged without a falter, and throughout the run not a sign of a ‘konk’ could be detected, and the engine kept remarkably cool...The next rise the engine took on top gear in excellent style, and thereafter followed a certain amount of straight road, on which a good pace was obtained...but we were truly sorry that the exhaust silencing arrangements were somewhat crude. This fact prevented us from appreciating that the

engine, apart from exhaust explosions, was really quiet, and only when throttled right down could the silence of the engine be adequately realised. There was no silencer proper, merely a long exhaust pipe with a flattened end, but when throttled right down or descending a hill nothing but a muffled swish could be noticed...In our opinion, the engine shows great promise. We tried hard to seize it up, but it refused to oblige us, and we believe that in its present form as a small single-cylinder, as a large V twin, or as a moderate power flat twin, it has great possibilities.”

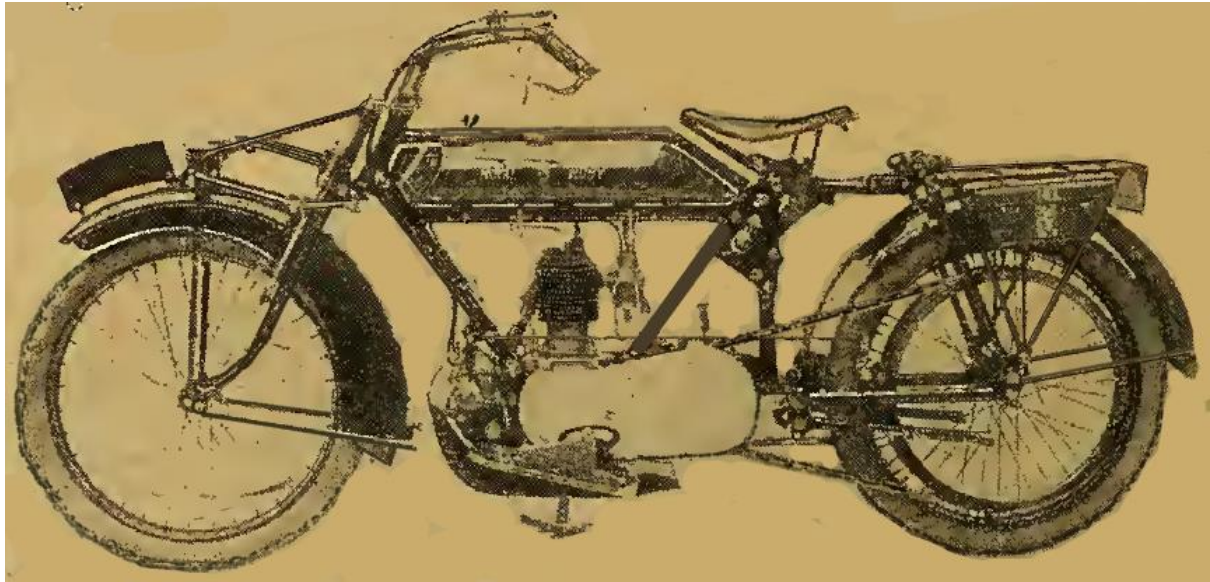


“The Burt single sleeve valve engine made by Barr & Stroud, Glasgow. Sectional elevation showing the arrangement of sleeve, ports, and cylinder head. (Right) The Burt engine fitted to a motor cycle. The engine does not appear extremely unconventional.”

“THIS WEEK GROVE PARK WORKHOUSE will be handed back to the Grove Park Guardians after being used as a MT depot for five years. Hundreds of ASCMT motor cyclists passed the tests at Grove Park, and thousands of motor cycles received treatment in the workhouse shops. A litter of derelict petrol cans is all that remains.”

“SIR,—THREE WEEKS AGO MY BACK WHEEL WAS RUN INTO by a lorry, and so buckled that a new tyre rim is the only possible repair. The machine is 1919 pattern—in fact, brand new a few days before the accident. A new rim was ordered from the makers—a well-known firm—the same day by the repairers who have my machine. Since then both they and I have asked the makers to hurry, explaining that the machine is required for daily use. I have no interest whatever in the firm beyond that of a customer who would no doubt be satisfied if his machine had a back wheel in it, and so enabled him to acquire satisfaction, twice daily, at 8.15am and 7pm. Oh! ye motor cycle manufacturers! Search in your hearts and order books, lest, peradventure, ye be the culprits. So that I may have my rim; and ye, the shekels therefor; and my blessing on yourselves, your successors, and assigns, in fee simple, and free from encumbrances. **Verbum Satis Facienti?**, Slough.”

FROM *MOTOR CYCLING*: “WE LEARN that at the last meeting of the Competitions Committee of the ACU, the basic conditions of the 1920 Tourist Trophy Races were discussed. It was proposed by Mr AV Ebbblewhite, seconded by Mr EB Ware, and carried unanimously, ‘that two Tourist Trophy Races be held in the Isle of Man, a senior race for machines not exceeding 350cc, and not over 200lb in weight, and a Junior race for motorcycles not exceeding 250cc, and 125lb in weight.’ The reduction in capacity in the two classes is due to the fact that 500cc machines were becoming too fast to be safe on the island roads.”

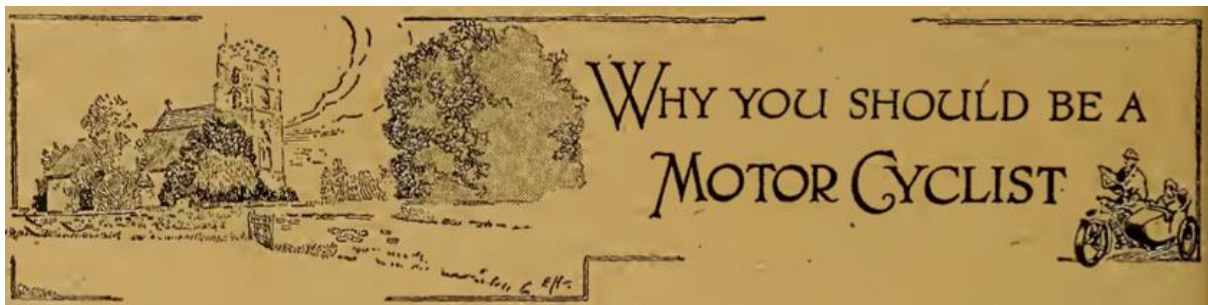


The post-war Royal Ruby featured for and aft leafsprings which were adjustable to suit the rider's weight; the rear suspension could be locked out (“although,” the Blue ‘Un commented, “we d not think that this option will be used very considerably, as we cannot imagine any rider who has a really efficient spring frame wishing to revert to the rigid type.”). It was powered by a 349cc 3hp sidevalve single with a two-speed transmission and belt drive.

An un-bylined scribe on the *Motor Cycling* team, presumably ordered to produce an introduction to the 1919 Olympia show, produced a joyous paean to motor cycling. If this doesn't stir your blood you're probably on the wrong website. Enjoy!

“THE FIRST OLYMPIA SHOW SINCE THE WAR is the beginning of a new era in the history of motor cycling. Five years ago pessimists were croaking that the war would be the death of the sport; to-day we realize that nothing has done so much to popularize motor cycling as the great struggle through which we have passed victoriously. Tens of thousands of men and women have learned to drive during the war; hundreds of thousands who had never before been driven in sidecars have learned by practical demonstration the value of these speedy and economical little outfits. To-day we face the curious position of finding that we have far more motorcyclists than motorcycles. This peculiar situation, however, is not likely to last long. I refuse to believe that a country that could perform the engineering miracles that were worked during the war

can be beaten by any difficulties, and I look forward to a time in the near future when there will be ten motorcycles on the roads of Great Britain in the place of every one that raised the dust before the war. At this great Show there will be thousands of men and women who have never yet owned motorcycles but who have been made to realize their utility during the last five years, and who do not require very much persuasion to induce them to join the ranks of those who motorcycle for pleasure. It is to these that I address these lines. I want them to realize what the possession of a motorcycle will mean to them. I want them to understand that the machine that did such faithful donkey work during the war is in peace time the greatest boon that has been given to us by science.



THE POSSESSION OF A MOTORCYCLE changes all one's views of life. It is not merely a means of locomotion; it is a constant source of new pleasure; it provides a new sport; it appeals to both sexes and to the elderly as much as to the youthful. Many are at first attracted by the obvious utility of the machine. They think it will be useful for business purposes, which it will be without doubt, or that it will serve to take them to the river, the football field, or the tennis club. One and all they learn that the pleasures of motor cycling lure them from the aforetime fascinations of inferior sports. Those who have patiently patted a white globule round the same old golf course year after year and have cursed in the self-same swear words in the same old bunkers and over the same old



"With a motorcycle you can start off in the morning for the links..."



“...and return home in the evening to your front door, saving yourself a walk from the station.”

rabbit holes, suddenly realize that there are other courses to conquer. They make new friends; life is broadened. Soon the fascination of travelling outweighs all other pleasures; the motorcycle is no longer regarded merely as a means of getting about, but as a creature that is palpitatingly alive. Most things mechanical add to the irritations of life. Trains mean boredom from which we drug ourselves by reading papers that only bore us a little less; the time-wasting invention of the telephone has caused more enthusiastic profanity than any other device of man, always excepting those hideous burrowings into the home of the earthworm in which Londoners hang by straps over seats for which they have paid. But a motorcycle is a thing that every normally-constructed man or woman can love. To begin with, it pleases the eye. It is graceful in its lines. It arouses one's intelligent interest. One wants to know all about it. It has moods that have to be humoured as a lover—poor brute—humours the whims of his pro tem, innamorata. But unlike the lover of woman, he who gives his affections to a motorcycle has the satisfaction of knowing that its whims are understandable, whereas—. But enough has been said. I am reminded that Motor Cycling has many readers of the sex that so charmingly adorns our sidecars. One of my few claims to fame when I am declutched from this life, and of which I wish to remind obituary writers, is the invention of that terminological exactitude the 'Flapper bracket' which first appeared in Motor Cycling some six or seven years ago, and which, like 'Gipsy Meeting', has become a household, I mean roadside, word in Great Britain and America. I have even heard a Frenchman use it with a pronunciation that it is impossible to reproduce, a somewhat striking testimony to the ubiquity of this journal. I believe it was the invention of the sidecar that caused the great boom in motor cycles. Before that time there were enthusiasts, some of whom hitched trailers to their machines, and inspired Punch to the famous picture of a motorcyclist calling out to an empty trailer, “Hold on tight, Auntie, we're coming to a curve.” The sidecar removed the objection that motor cycling was a, selfish and unsociable pastime. Young men should be warned that the possession of sidecars makes it extremely difficult for them to avoid the careless habit

of becoming engaged. Those who have not yet experienced the pleasures of sidecarring can hardly be said to have lived. To set off early on a summer morning with a congenial friend who



“Those who have not experienced the pleasures of sidecarring can hardly be said to have lived.”

knows how to ‘do’ her hair so that the wind will not disturb it and put her out of temper, and to leave cities and work behind, to get out into God’s own country, along roads tunnelled through trees and flecked with sunshine, to rush through pure air over commons flecked with white geese, past purple heaths, over wooded hills and open moorland, is an experience once enjoyed will never pall. The need for alertness when driving to avoid the dangers of the road produces a pleasant stimulation of the senses that banishes all cares. One is merely conscious of a feeling of supreme happiness. Scenes change so rapidly that the fascination is never dimmed, and always the white ribbon of road lures one on to find out what lies round the next bend, or what view will be disclosed when the summit of the next hill is reached. Other sports may thrill, but motor cycling gets into the blood; it arouses the wanderlust that can never be sated. It gives one the feeling that at least one has discovered what it is to be free. Instead of a

garden, one has counties to play in, or countries or continents if time permits. And the desire to explore, to see how God has planned his great garden, becomes keener as time goes on. One-day runs to the country and the sea are extended into long week-end tours covering hundreds of miles, and still the ambition to go farther afield grows steadily. Arrangements are made for a holiday tour. There is no need to decide upon where to go. The wise man does not make plans of any sort. He has all of Great Britain to play in, and the whim of the moment will determine where the next resting place shall be. The owner of a modern motorcycle has a machine that will take him to worlds of romance of which he has formerly only dreamed. He may have it slung aboard a Channel steamer and the Continent of Europe is his to enjoy. The chateaux of France mellowed by the glamour of history, the sunshine of the Mediterranean, the white Alps that glow crimson as the sun sinks, the valleys of Switzerland painted with gentians and Alpine roses, lakes, waterfalls and glaciers that are frozen oceans of lovelier blue. Italy! He may learn all that her name means to her lovers; Spain with its memories of Moorish grandeur, its colour and sun—as time goes on he may know all these as no tourist who is the slave of railways can ever know them. Remember that when one has bought a motorcycle one has a key to the world. It costs no more, very often less, to spend a motor cycling holiday exploring Europe than to spend it in England. If you were given a free pass over all the railways of Europe would you not travel? If you would not you must be strangely lacking in that spirit of adventure that has made Britain. The motorcycle is a travelling pass to the lands of which you have read and about which you have dreamed on so many occasions. And let me tell you one thing more. If you buy a motorcycle today you will find that it is an introduction into the society of the keenest, most human, most chivalrous sportsmen and sportswomen in the whole world. Join them now and may the best luck of the road be with you!”

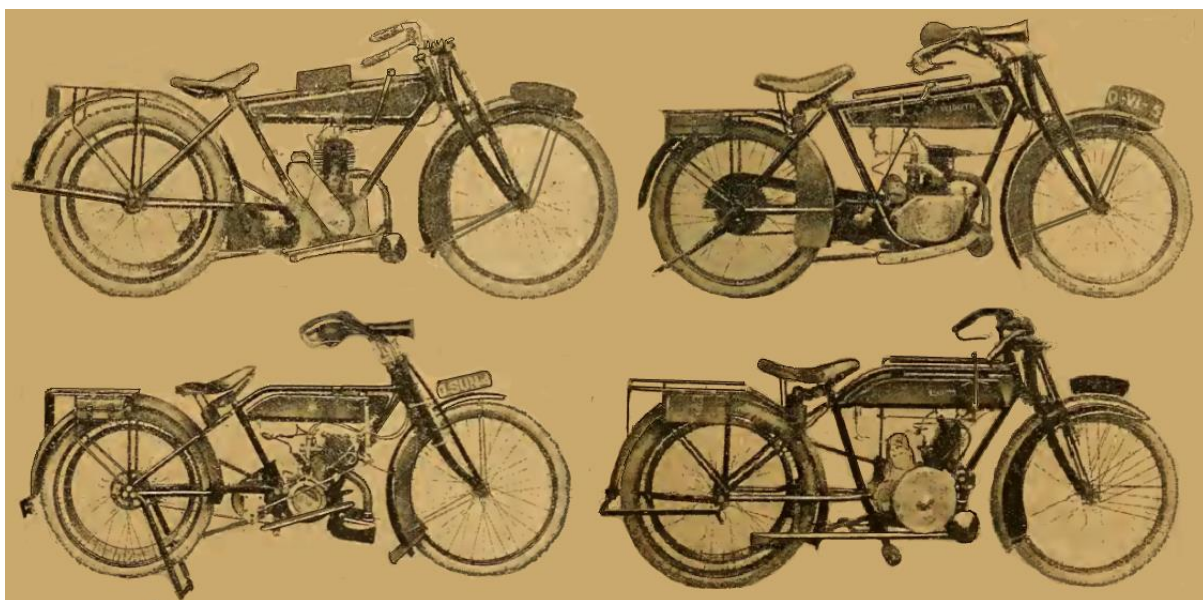


"With a motorcycle the world is yours to explore."

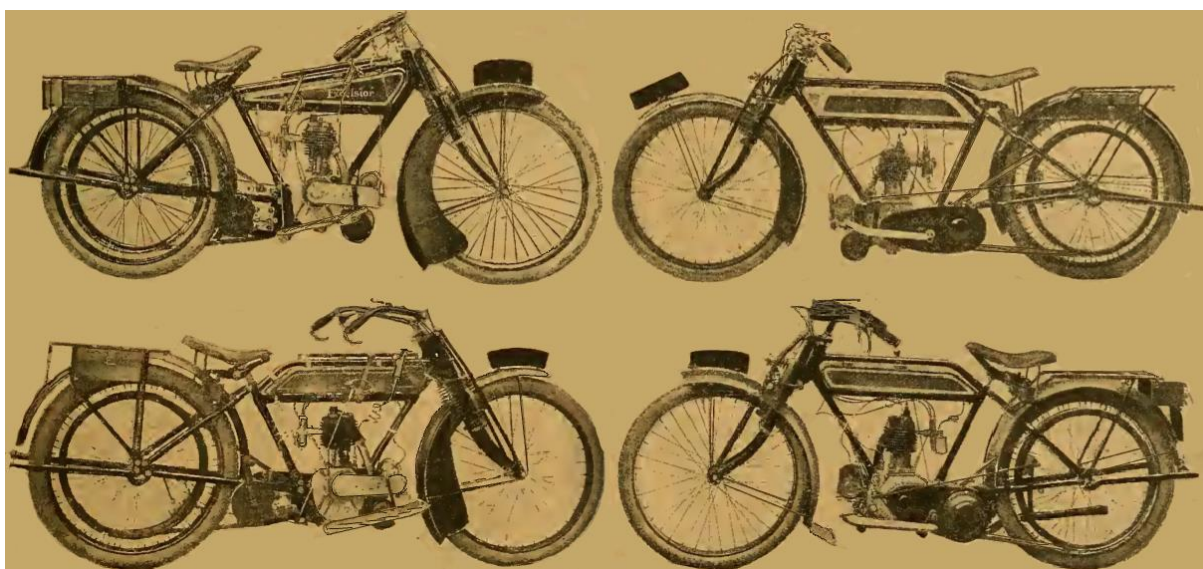


THE MOTOR CYCLE OFFERED A CONCISE update on technical trends at Olympia: "The most pronounced tendency in four-stroke engines is the adoption of the flat twin—a

tribute to the Douglas. Such additions as the new ABC, Humber, Brough, Zenith, Coventry Victor, Harley-Davidson, Raleigh, and Wooler make an imposing list, and clearly show which way the wind blows. Another most noticeable feature is the increased number of small two-strokes, a type of engine which has been considerably improved in detail since the Show in 1913. Enthusiasts will be disappointed at the small number of British engines fitted with overhead valves, but one may expect developments in the next year or so. There is already a tendency amongst new firms to incorporate this- feature in their designs, and the sceptics will gradually be converted. Several firms are now marketing models with mechanical oiling devices, while many more are experimenting in that direction. The Humber (4½hp), Douglas (3½hp and 4hp), Velocette, Clyno, Rex, JES, BSA, P&M, and Precision are amongst the British converts to mechanical systems, moreover the FN and practically all American machines are so fitted. Tourist Trophy races and experience during the war account for the disappearance of the hub gear. Countershaft gears in one form or another are almost universal, the exceptions being those firms who stand by the simple belt transmission, such as the Rudge, Zenith, and Wooler, and even the Zenith may be said to possess, a countershaft. Three-speed countershaft gears may be considered to be standard for sidecar machines, but the majority of light solo mounts have two ratios only, the ABC being an exception, with its four-speed box. Proprietary gears are more common than gear boxes made by the manufacturer of the motor cycle, and motor cycles as a whole give the impression of being assembled rather than designed. Combined engine-gear units retain the position they held in 1913, although not necessarily by the same manufacturers. The big single Quadrant, Precision, and Paragon are among the new designs embodying this principle. New spring frames are exhibited on the 3½hp Douglas, the ABC, Matchless, Raleigh, Indian, Royal Ruby, Precision, Paragon, Coulson, Wooler, and Clyno. The spring suspension of the type so well proved by the Bat and Edmund, in which the saddle and footboards are sprung, has also gained new support. On passenger machines detachable and interchangeable wheels are becoming universal practice amongst the heavier machines, at any rate. Mudguarding has received the attention due to it, large guards and better designs in valancing. being obvious improvements on most new models, while the problems of accessibility have not been overlooked, although not entirely overcome, by many designers. In finishing their machines, makers now show a decided tendency to reduce the number of plated parts, while tank decoration is more conservative, the black and gold finish being much in evidence. The show also reveals the prevalence of dynamo lighting. “



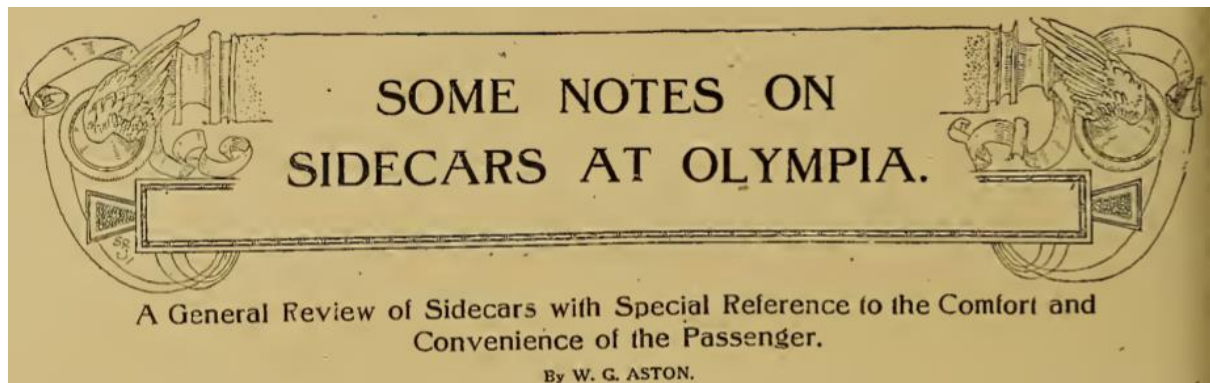
Four two-stroke tiddlers at Olympia: 2½hp Verus with Brampton forks and two-speed Burman box. All-chain Velocette with automatic lubrication. Sun with a one-piece cast crankcase. Unit-construction Clyno.



Four four-stroke tiddlers at Olympia: 2½hp Excelsior-JAP with two-speed Burman box. 2¾hp Dot-JAP with Saxon forks and Albion two-speed box. Wolf, with Burman box and an impressive front mudguard. New Imperial-JAP with Saxon forks.

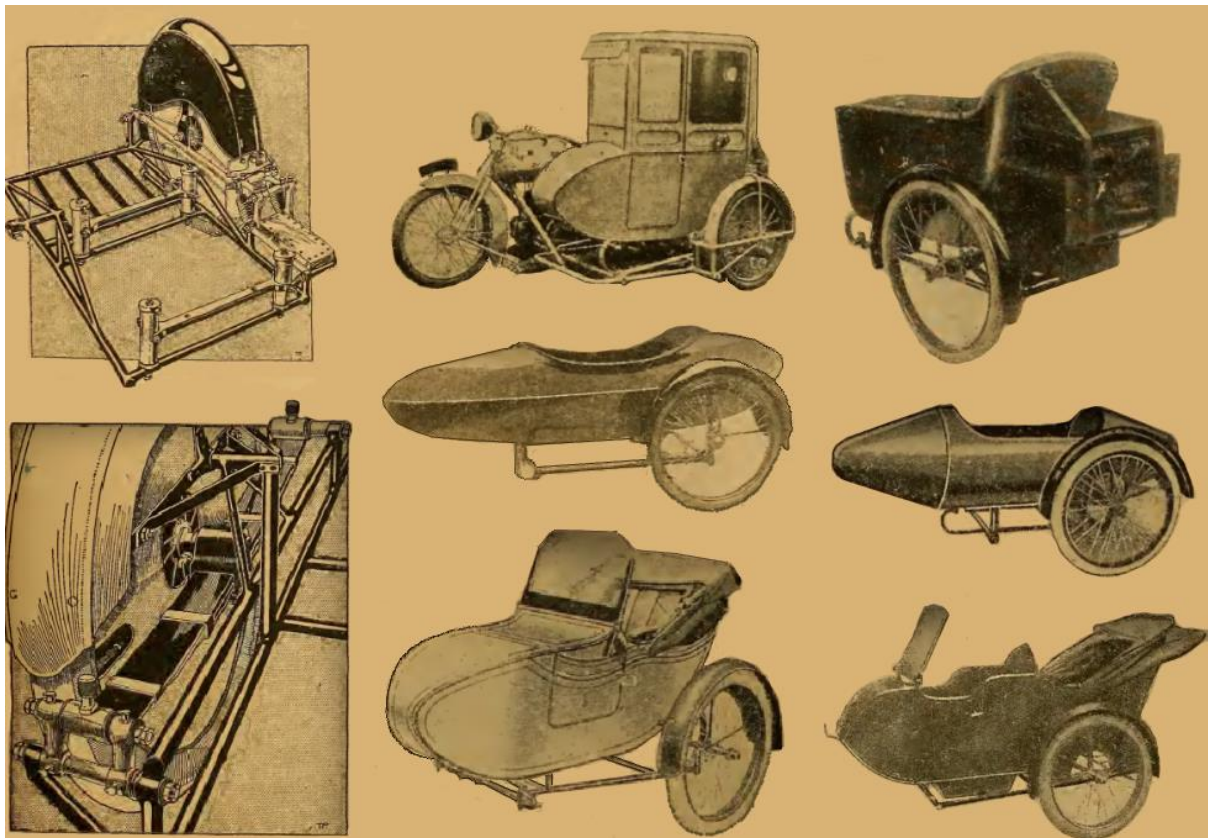
MARQUES EXHIBITING AT THE 1919 SHOW: ABC, Abingdon, AJS, Alecto, Allon, Ariel, Bat, Beardmore-Precision, Black Prince, Bown-Villiers, Bradbury, British Excelsior, Brough, BSA, Calthorpe, Cedros, Chater-Lea, Clyno, Connaught, Corona Junior, Coulson, Day, Diamond, Dot, Douglas, Dunelt, Edmund, Elswick, Enfield, Excelsior (American), FN, Harley-Davidson, Hazlewood, Henderson, Hobart, Hoskison, Humber, Indian, Ivy, Ixion, James, JES, Johnson Motor Wheel, Kingsbury, Lea-Francis, Levis, Martinsyde, Matchless, Metro-Tyler, New Hudson, New Imperial, Norton, NUT, OK, Olympic, Omega, P&M, Paragon, Quadrant, Radco, Raleigh, Reading Standard, Res,

Rover, Royal Ruby, Rudge, Saltley, Scott, Simplex, Sparkbrook, Sun, Sunbeam, Triumph, Velocette, Victoria, Verus, Vindec, Williamson, Wolf, Wooler, Young, Zenith and, producing scooters (“miniature two wheelers”), Autoped, Kingsbury, Quadrant, Silva, Skootamota, Whippet. The Matchless Victory’s khaki livery must have been the last thing veterans wanted to see. Clyno’s 8hp twin appeared with an enclosed rear chain and spring frame; this stalwart of the machine-gun battalions was sold as the Peace model. More radical designs included the three-cylinder Redrup Radial. There was even a six-pot prototype but the marque had faded away within three years.



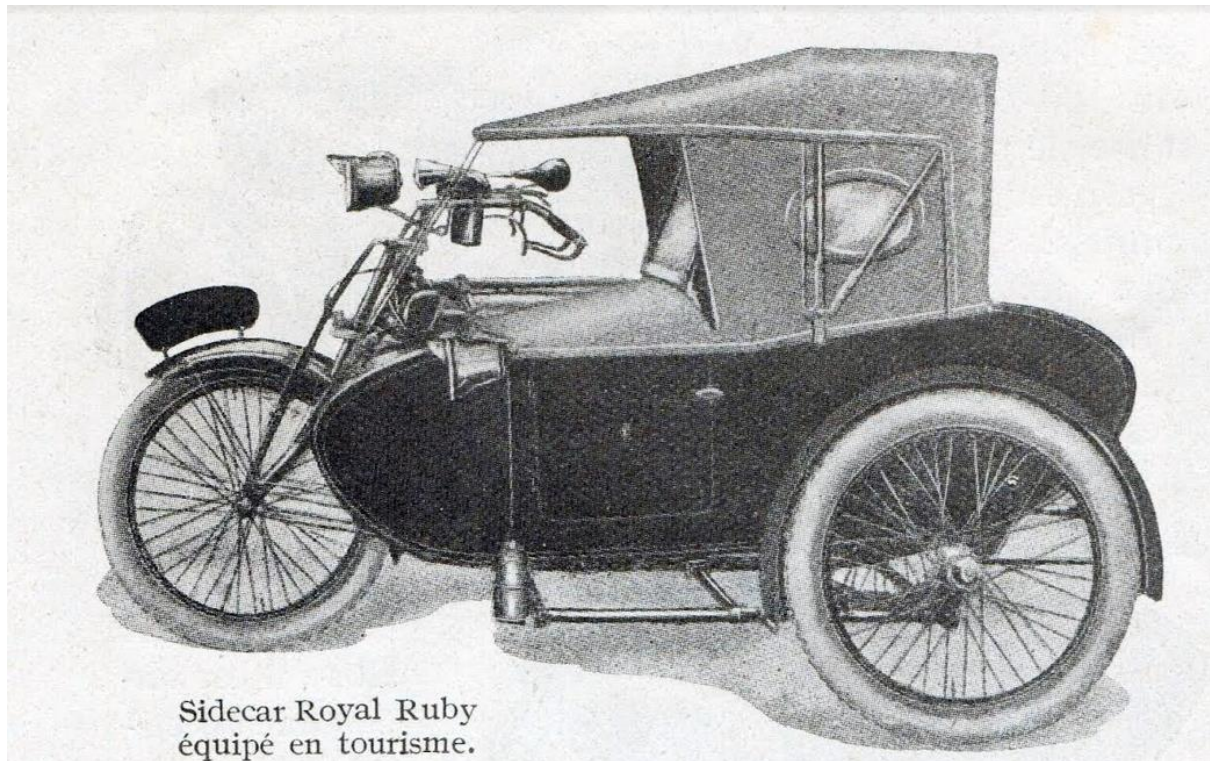
“CONSIDERING HOW VERY LITTLE HE KNOWS about them, the average motor cyclist takes, quite an interest in sidecars. At Olympia Show, under the benign influence of feminine persuasion, he even goes so far as to try some of the more attractive-looking models—an action which, in so far as real judgment is concerned, is just about as effective as trying to assess the merits of a car by sitting in the dicky seat. But it leaves him in total ignorance of the fact—as from personal experience I am prepared to testify—that the modern sidecar represents probably the most luxuriously comfortable form of road travel known to mankind. The motor cyclist—wise man—appraises the sidecar purely and simply as an auxiliary to his machine. Will it make a favourable-looking combination? Is it light enough? Is it strong enough for those hill-climbing stunts, etc? Once upon a time I adopted this attitude myself. I permitted any justifiably regular passenger to select her sidecar, whilst I attended to the wangles associated with early delivery of the gallant machine that was to propel her and me. I have since perceived that I was grievously mistaken. I ought to have sent her to a motor school to learn how to control a powerful twin, whilst I sampled and chose the attachment that was to float me over the rough roads and lull me into delicious mental abstraction with its lazy, nonchalant, easy-going motion. This enthusiasm for sidecars is a war product, purely and simply. In the course of duty I used to bestride Triumphs, Douglasses, and Clynos, and do my best, as in duty bound, to dash them to pieces on the highways and byways of Flanders and Northern France. But one day, in a fit of generosity—I had been consistently putting a vertical gust up my mechanist sergeant, and thought it only fair to let him have a return match on me—I climbed into the sidecar. From that day forward I renounced the saddle in favour of the life of padded luxury which I found was assured by

acceptance of the passenger seat...The. sidecar combination may be, and I make no doubt certainly is, the *Ultima Thule* of economical motoring, but from the moment he or she climbs into the nest of cushions and repose, the sidecar passenger is one of the idle rich. Idle, you who have mended punctures whilst she powdered her nose, will easily grant. Rich? Who wants, greater wealth than the enjoyment of speed, air, scenery, and perfect comfort. And all that with a complete detachment that is only comparable to sleep...It appears as if the resources of science had been ransacked in the interests of promoting, sidecar efficiency. The modern sidecar is a good-looking affair, graceful in outline and pleasing to the eye no less than to the vertebra. The suspension is a miracle of thoroughness. Between the passenger and the bump on the road are interposed a variety of shock-absorbing devices. First, the cushions—and these are better than ever. Secondly, the body springs connecting the carrosserie (this is the word!) to the chassis. Thirdly, the chassis springs connecting the frame to the axle. Finally, the pneumatic tyre. Here is a fourfold defence that nothing short of an explosion can penetrate...I was enjoined not to get into the Bat limousine sidecar [*pictured below, top centre*]: a reduction in miniature of the sort of thing one associates with a 45hp Daimler. However, it could be got into, as I saw several people in it. Another mother-in-law joke ! Needless to say, the unlettered halfpenny press leapt at it, and the explosion of their flashlights o' mornings was as the bombardment preliminary to the Somme push."

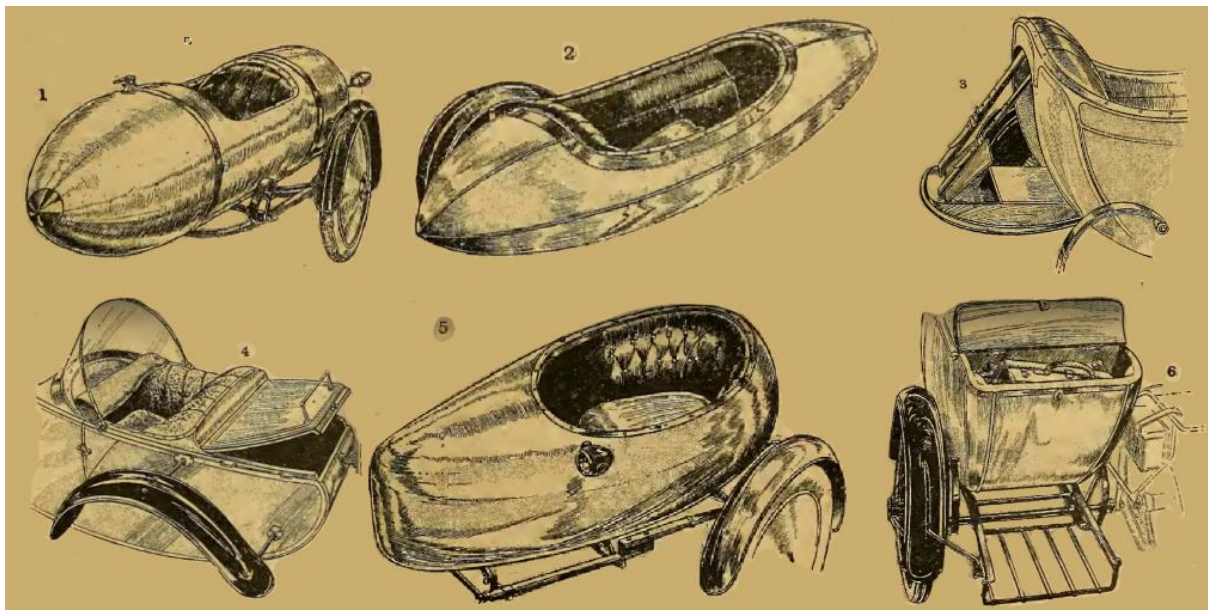


Sidecars abounded at Olympia in all shapes and sizes..."Two novel spring-wheel suspensions to be incorporated in Bamco sidecars. Studying the lady passenger's comfort—the Bat cabriolet. A well-finished Mills-Fulford body; note the luggage-carrying

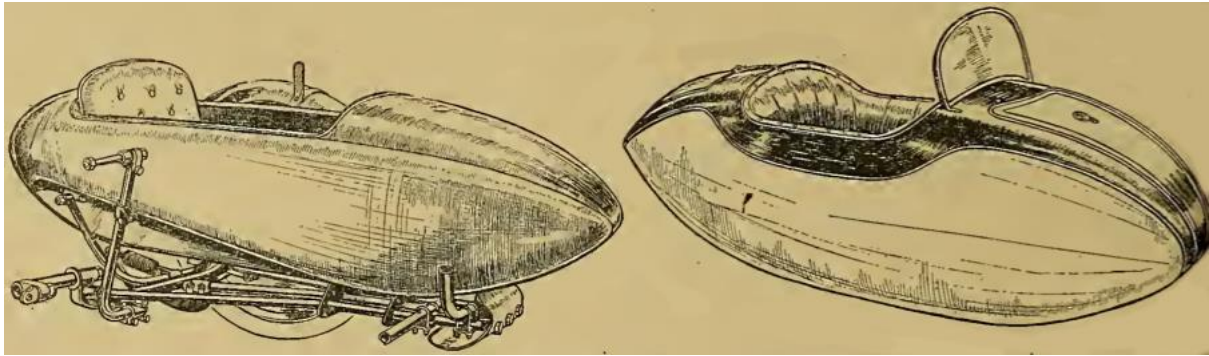
capacity. An attractive Watsonian sidecar, known as the R34. For the speedman, the Sandum sporting body. For the family man—the tandem-seated Montgomery. One of the latest types of Montgomery sidecars.”



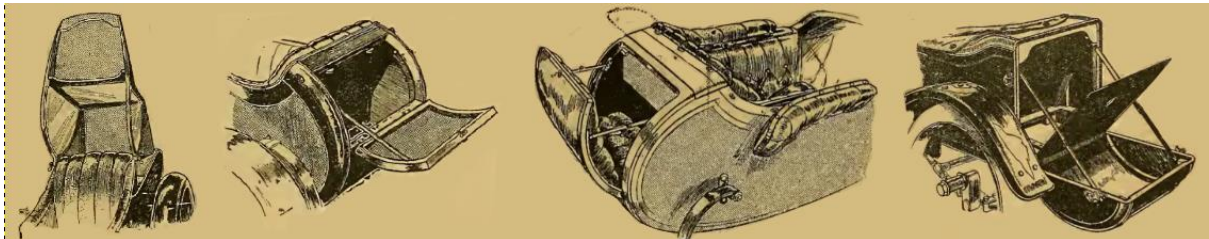
Exports were important to the peacetime industry: this image of the Royal Ruby sidecar is from a French advert.



“1 A shell type body exhibited by the Sidecar Body Co. 2 Watsonian ‘R 34’ type, sporting model sidecar. 3 A newly designed Millford sidecar with a folding grid. 4 A very capacious locker in the rear of the Henderson. 5 An egg-shell aluminium body fitted to the ABC. 6 Rudge sidecars are provided with a deep locker.”



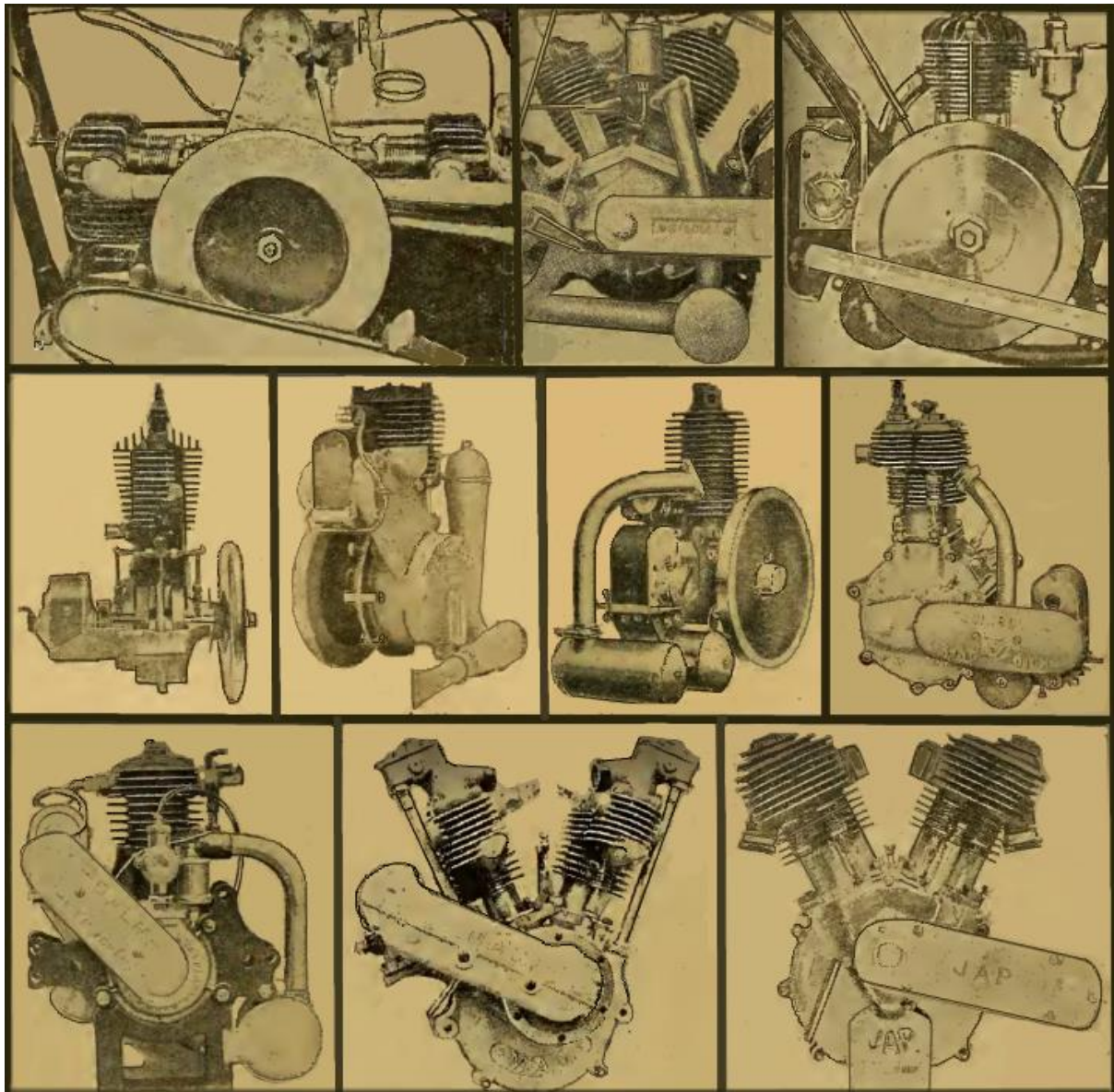
“Sporting doorless sidecars: The Canoelet, which has a wide section domed guard sprung on the body, and the Dunhill Limousette.”



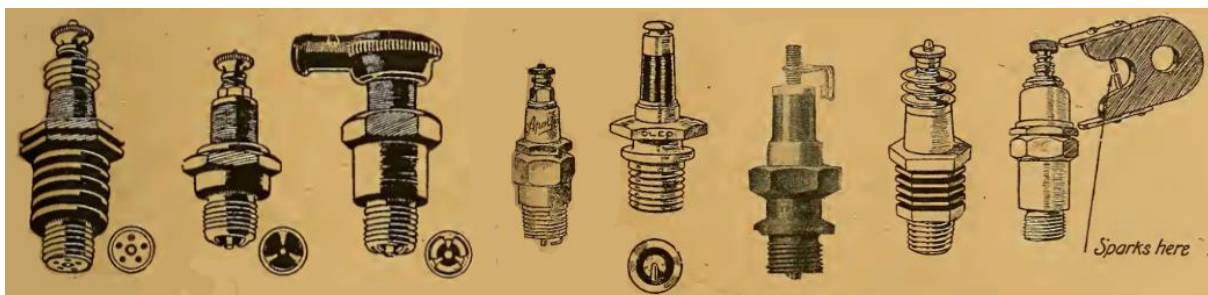
From the left: “A Watsonian novelty: hinged dash embodying screen and side shield with detachable roof and curtains. Rover rear locker. The rear portion of the luxurious Harley-Davidson sidecar. Twin rear locker on Norton sidecar.”

“SOME OF THE BEST FEATURES of engine design seen at the Show were found in component power plants constructed by firms which specialise in their production. It is interesting to note that the adoption of a standardised unit has always been a characteristic of a great many motor cycles, and this policy is being now taken up very widely by car manufacturers. It is undoubtedly a sound one, as through specialisation and the fact that large outputs are handled, economy in cost and efficiency in the service of spare and replacement parts are simultaneously obtained.” Blackburne was at Olympia with 2¾ and 4hp singles and an 8hp V-twin. Abingdon King Dick offered a 3½hp single and a 6-7hp V-twin. The Swiss MAG range was represented by 3½ and 6hp V-twins. The 2½hp two-stroke Villiers featured in a number of lightweights throughout the show; faced competition in the lightweight two-stroke market from the 2¾hp Union and 3hp Dalm. Precision’s well established 8hp V-twin was joined by a 359cc two-stroke; Stanger stood out from the crowd with a 5hp two-stroke V-twin. Victor was new to the proprietary market with a 5-7hp flat twin. And, as The Motor Cycle pointed out, “JAP engines may be said to have grown and developed with the pastime itself, and there is no doubt that the industry owes a great deal to them. They first saw the light in 1903, when British motor cycle engines were practically non-existent, and the then small works of Mr JA Prestwich were devoted to turning out a certain number of those engines which helped to make the success of the earliest all-British motor cycles. To-day, scarcely one motor cyclist in ten thousand is unaware of their existence, and literally thousands are in use at the present time. The JAP range comprised 2¾ and 4hp

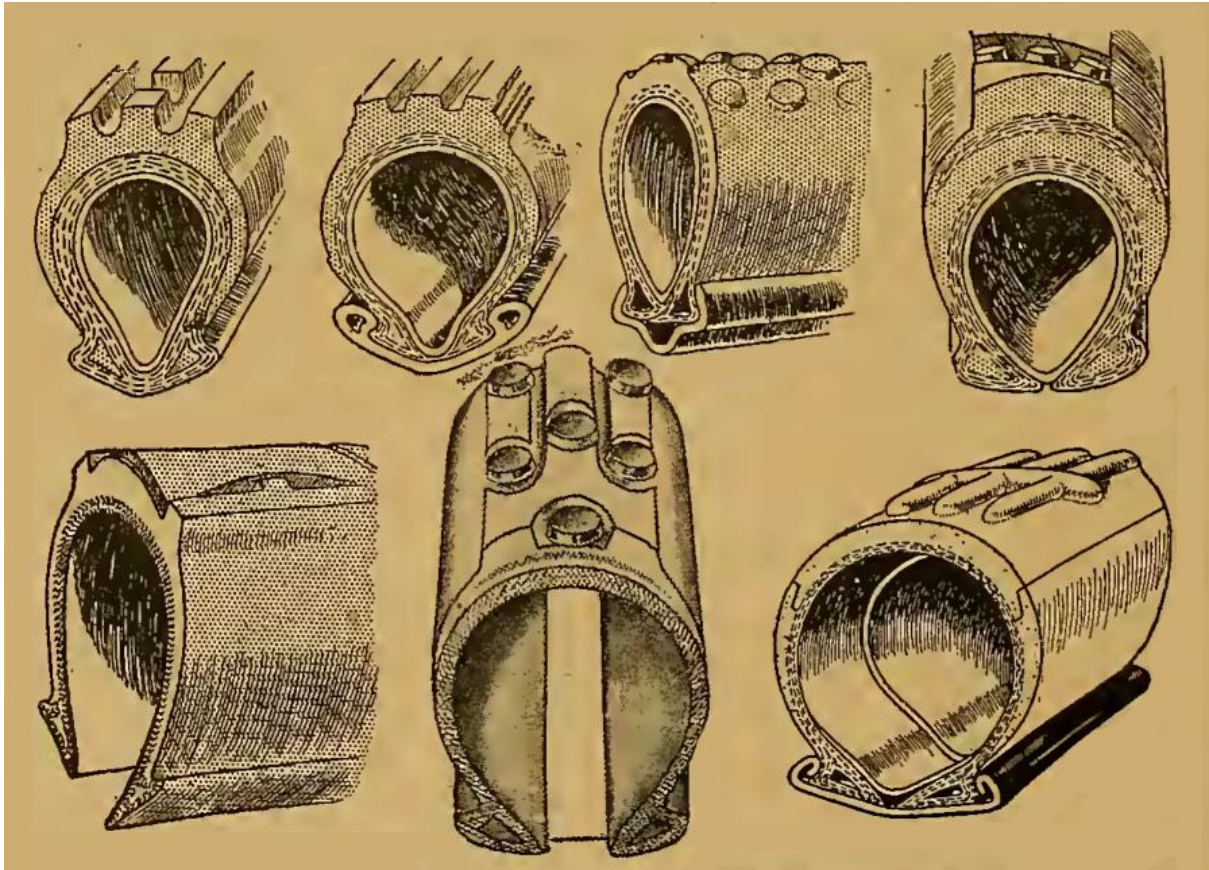
singles and V-twins rated at 4, 5, 6 and 8hp; the 8hp was available with air or water cooling.



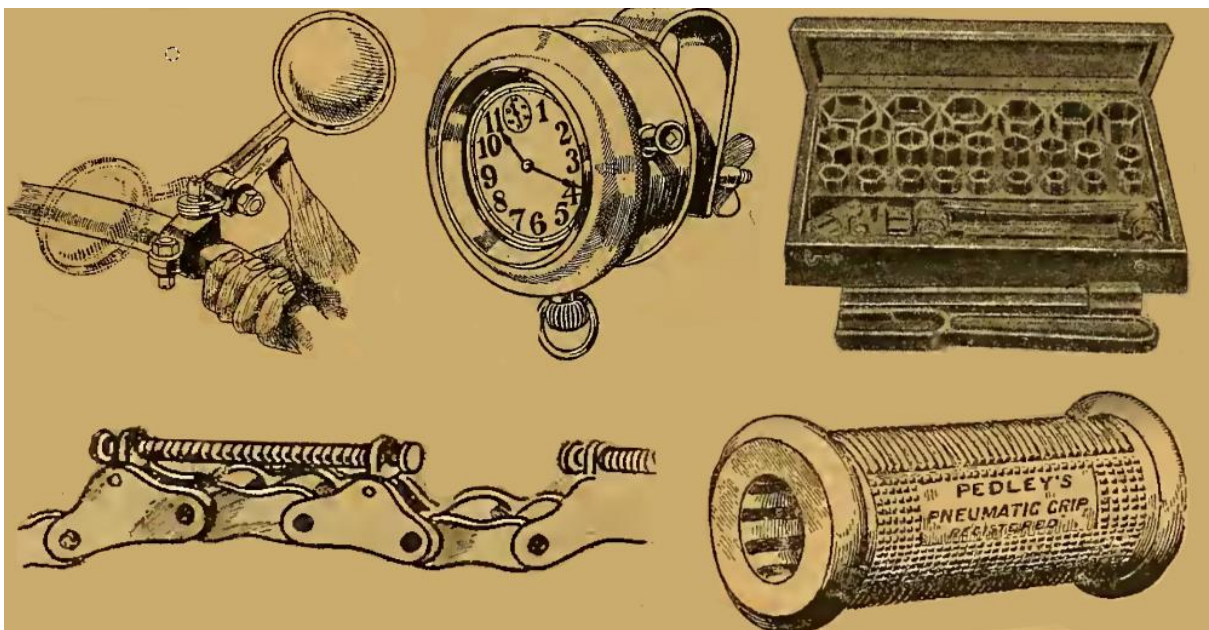
Proprietary engines, from top left: Coventry Victor, Stanger, Blackburne, Union, Precision, Villiers, Abingdon King Dick, Dalm, MAG and JAP.



Some spark plugs were imposing beasts: (From left): “Lodge motorcycle plugs, showing the Aero, Baby (for lightweights) and waterproof types; the Apollo aviation plug, the single-point Oleo, the KLG, the racing Forward, and the Leo Ripault spark tester.”



Tyres for the all-weather rider: “Top (left to right), Bates, Hutchinson Passenger, Thames, ROM. Bottom: John Bull, Clincher, Goodrich.”



Olympian innovations: The Lucas handlebar mirror (note the clever adjustment system). Davenport’s handlebar watch. Lake and Elliott’s Millennium box spanners. “The latest Brampton chain is the ‘spring’ type, which can be adjusted very tight, the springs being an excellent substitute for a shock absorber.” “An item of interest to all motorcyclists is

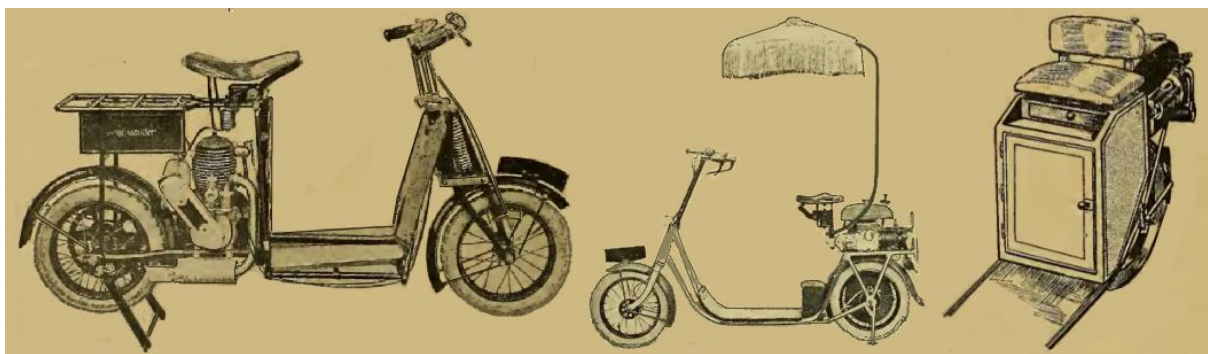
the pneumatic handlebar grip, which is so constructed as to prevent almost, all vibration on the handlebar from being transferred to the rider's wrists and arms."



The Blue 'Un's artist was kept busy recording noteworthy details of the new models (from top left): "The clutch on the Bradbury has combined hand and foot control, though each may be operated independently. The Starley patent pressed steel forks on the new Ariels. Acetylene welding is used in the production of the one-piece silencer on the Ivy two-stroke. Showing the efficient mudguarding and radiator of the 3¾hp Scott. A very simple system of guided plungers, working against coil springs, is used in the Paragon frame springing. An additional shield extends horizontally beneath the rear number plate of the New Imperial lightweight, thus giving the back of the rider extra protection from mud splashes. The oil tank and lubricator are detachable complete from the Levis tank. Observe the arm carrying the Enfield change speed lever. A capacious loolbag is used on the new Zenith, with separate compartments for spare tube and tools.

Combined flywheel and chain cover of the two-stroke Verus. Neat rear springing system adopted on the 3½hp Douglas. A commendable feature on the Matchless is that the speedometer drive is enclosed within the rear chain case. The neat and readily detachable footboards on the Omega JAP. To enable easy starting on the Matchless, the exhaust valves are automatically released at the correct moment by a cam on the quadrant of the kick starter crank. A trouser guard over the exhaust branch of the new four-cylinder FN. Hinged rear mudguard of the Abingdon King-Dick. Saddle tank and leg guards of the Allen two-stroke; note the position of the inflator. On the ABC the speedometer is fitted in a convenient position on the tank; the large tank filler caps will be observed. The front footboard supports of the Allen pass through the silencer. Details of the detachable wheel on the Bat—the illustration shows the chain case as well as the locking bolt for the detachable hub. An unusual type of rear suspension on the new Ariel. Enclosed kick-starter mechanism is a desirable feature, and a neat example occurs on the 4¼hp Humber. The Connaught change-speed bracket is clamped to the front down tube, the operating lever thus being accessibly placed. The Rover change speed lever projects through the tank, and is handily situated. Chain adjustment on the Matchless is easily effected, the gear box being mounted in a tunnel with an eccentric sprocket.”

“AT THE SHOW, LADY MOTOR CYCLISTS will be interested in: The open frame Ixion. The Sun-Vitesse open framed mount. The Cedros lady’s or gentleman’s mount. The oriental model Skootamota. The various Lilliputian engined scooters. The mirror in the dash of one of the Sandum sidecars. The Bat limousine coupe sidecar for passengers of slender build. The Mills-Fulford luxury sidecars, with tool compartments NOT under the seat.”



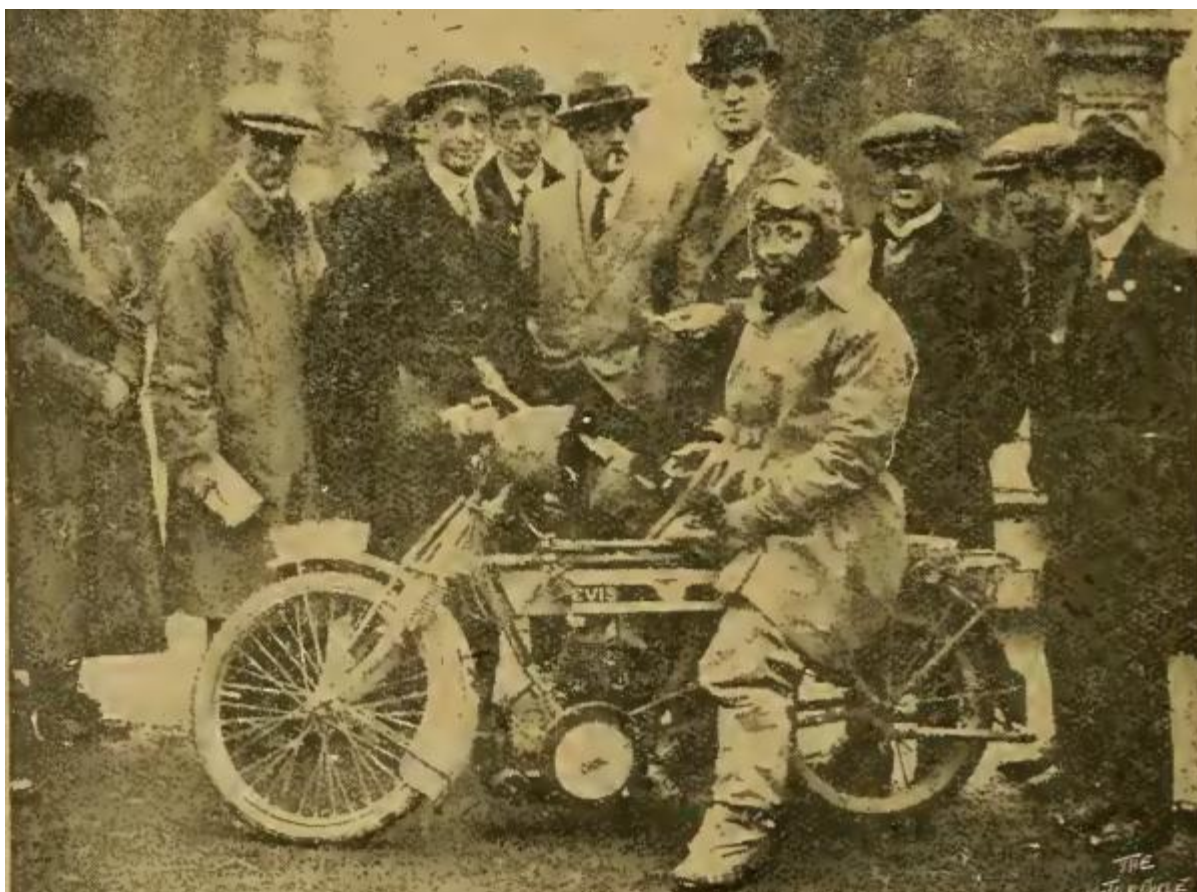
“A scooter produced by the Quadrant Co, which approaches a miniature motor cycle. Quite an attraction at the Show is the Oriental model ABC Skootamota which has a silk canopy, as shown. A large box is fitted beneath the seat on the commercial model Skootamota.”

TO PROVE THE CAPABILITIES of the single-speed, belt driven 2¾hp Union-engined OK Captain P Pike undertook to ride one from John o’ Groats to Land’s End in five days. The top of the country was snowed in; the ACU demanded that Captain Pike should start from Inverness. The Green ‘Un reported, “On Monday we received the following wire: ‘Banff—OK-Union going well on most difficult roads of snow, ice and water. Great strain

on rider to prevent frequent broadside sliding. Too dangerous to proceed in dark, therefore three hours behind schedule. Resume in morning for Aberdeen and Perth. Muddy roads will be welcomed as a picnic.' The next communication reached us on Wednesday, and was dated from Edinburgh. It said: 'OK-Union proceeding through abnormal road and weather conditions—ice, snow; mud and deluge of rain. Making Newcastle to-night, going well; half-day behind schedule.' On Thursday we were notified from Newcastle: 'Torrents of rain at Edinburgh, followed by heavy melting snow. Regret we have not yet had fog. Proceeding Doncaster and Birmingham; half-day behind schedule. OK-Union OK.' Evidently the torrential rain has not damped the rider's humour. After a terrible journey Capt Pike arrived at Birmingham from Newcastle on Friday at 2am, 12 hours behind the scheduled time. The worst part of the journey, from Inverness to beyond Banff, over 45 miles, was through solid ice with deep drifts of snow on either side. After a rest they proceeded on their journey to Land's End, encountering a terrible blizzard over the Derbyshire moors. This, however, Pike considered a joy ride! The trial is proceeding at the time of closing for press..." The Blue 'Un was able to complete the story: "Then came the final message that the OK-Union reached Land's End on Saturday evening last. For the last four hours of the long journey thick mist and heavy roads were encountered—a fitting conclusion to a week during which not a mile of dry road was covered. All hills were climbed with power in reserve. Pike's machine was immediately taken to Olympia, where it forms an attractive exhibit on the stand of Messrs Humphries and Dawes. We congratulate Capt Pike upon the successful issue of his undertaking, and also Messrs, Humphries and Dawes upon the performance of their new machine, which makes its debut to the public in such a praiseworthy manner. This record of a trying test would not be complete without some reference to the sportsmanship of the ACU observer, Mr Cuffe, and the manner in which his untuned 3½hp Sunbeam behaved as the tender."



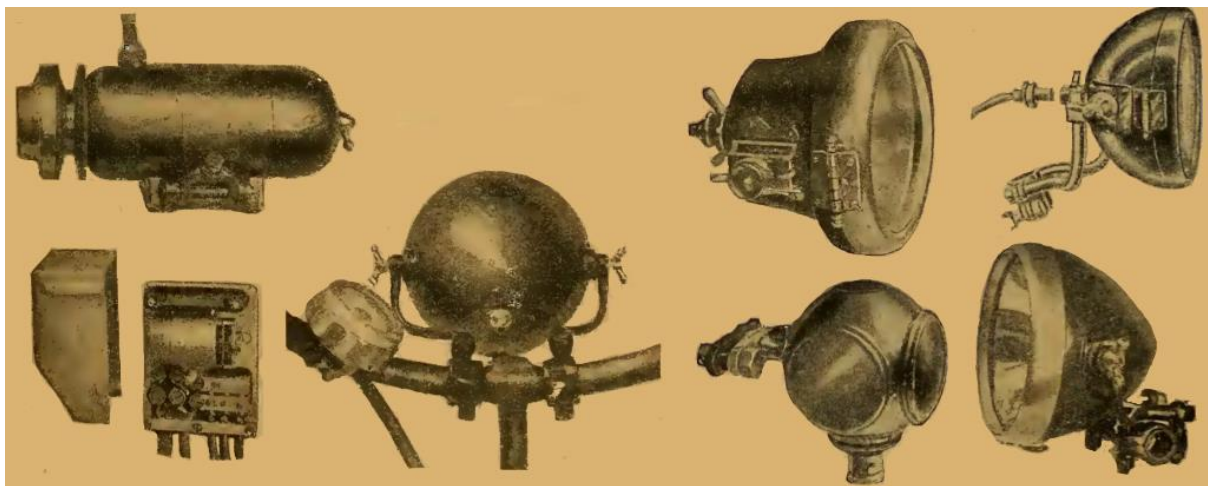
"Captain P Pike, 2¾hp OK-Union, photographed on his departure from Birmingham. He was given a send off by local enthusiasts. (Right) For over 200 miles in Scotland, snow and ice covered roads were encountered."



Fresh from his victory in the South Birmingham MCC Palmer Cup open trial, Gus Kuhn also proved the capabilities of post-war tiddlers by riding his 2½hp Levis from Birmingham up to John o’Groat’s, down to Land’s End and back up to Olympia. “He experienced no trouble beyond the state of the roads, which were ice-bound or inches deep in water and mud.”

IXION EXTOLLED “THE GLORY OF ELECTRIC LIGHTING: The lighting dynamo will undoubtedly prove itself to be the most fascinating novelty of motor cycling in 1920. In a sense, it is not a novelty, for years ago we had good outfits on sidecar machines; but never before have we enjoyed powerful and reliable lamps on solo mounts. It is no exaggeration to say that the outfits transform nightwork. The road is flooded with light at a touch of the button—there is no “waiting for the smell,” or blowing through a dust-choked water valve. The light is better than that of the best acetylene equipment, partly because it is absolutely steady, partly because there is no burner to interfere with the action of a scientifically-designed reflector. After three or four hours, the light is just as good as it was at the start, and you know its efficiency will continue all night, if need be; this is better than having to gouge out a sodden mess and recharge with carbide and water stored in awkward receptacles. The chances of trouble are so entirely remote that they are out of mind. Hour after hour the long beam stretches ahead of you, serving equally to illumine and to clear the road. Finally, when the destination is reached there is no cleaning to be done. For a year or so motor cyclists will probably display a certain

nervousness about the reliability of dynamo outfits, but there is no longer any rational cause for alarm. So far as my experience goes, dynamos are nearly as reliable as magnetos. The possibilities of trouble are in practice confined to the accumulator, the wiring, and the lamp bulbs. Wiring has made an enormous advance since the days of accumulator ignition, when our mounts were festooned with flimsy wires of indifferent quality and thoroughly bad fitting. Armoured wire, impervious to oil and wet, too sturdy to fracture as the result of 'pull' or vibration, and very neatly fitted is the rule nowadays; and short-circuits on such wiring should be practically unknown. If a short occurs, the fuse wire localises the damage; and the tracing of the short is as simple as finding out whether petrol starvation is due to a choked jet, a choked feed pipe, or an empty tank. Lamp bulbs must give out occasionally—that goes without saying: but the modern filament is extraordinarily strong, and a bulb will often last a full year. Lamp stops by the roadside promise to become increasingly rare...Solo motor- bicycles only carry one forward-facing lamp, and, if it is suddenly extinguished—especially on a twisty road—the situation is none too pleasant...a solitary electric bulb may plunge the rider into Cimmerian darkness...electric lighting is so bright that riders are tempted to drive rather fast with it...Perhaps there will be 100,000 dynamo-lit motor cycles on the road in 1921: if each of them is suddenly plunged into darkness once in that year, some of them will be riding fast on awkward roads at the time and a crop of accidents will occur...this consideration rather suggests that it is unwise to rely on a single forward-facing bulb, and that the outfit of the future will include a second low-power bulb, consuming very little current, which will safeguard the pull-up when the main head lamp bulb chanches to go out of action without warning. Subject to this consideration, the new dynamo sets are simply ideal."



Powell & Hamner dynamo set: "A slipping clutch device is embodied in the driving pulley—note the neat handlebar switch." FRS head and tail lights; Lucas headlight, Hunts 'Daylight'.

IXION LOOKED BACK, AS ENGAGINGLY as he looked forward..."A Show Memory: is hardly conceivable that a few years ago the new model motor bicycles were thinly

sprinkled through a giant assembly of push bicycles, and that the whole caboodle was easily stored in a far smaller building than Olympia. Most stands staged twenty or more pedal cycles to each motor cycle, though the latter usually had the place of honour. It took the centre more because that was the only way of balancing the exhibit than because it was answerable for the bulk of the business done. The general public consisted largely of youths with exaggerated calves, and thin black stockings, and the few motors on show evoked quite as many sneers as plaudits. The provincial agents treated the petrol side of the affair quite cavalierly, and the visitors drew caustic contrasts between the pleasing appearance of an exhibition motor on a red velvet platform and its subsequent eccentric, noisy, and dirty progress on the road. If one desired to make a technical enquiry, or—mirabile dictu—to place a definite order, one shouldered one's way into the office through a crowd of sleek people discussing free-wheels. When one secured a hearing and the astounding fact that this well dressed fool actually wanted to buy a motor bicycle became plain, there was a frenzied search for 'our Mr Jones', who alone of the staff knew how the beastly thing worked. Unless memory has betrayed me, I once attended a Stanley Show which was graced by just one solitary motor cycle, and the crazy individual who had the temerity to invade the holy of holies with the contraption had to seek refuge from the chaff of an outraged industry in an outside bar for the remainder of Show week."

IXION (ALBEIT WRITING UNDER HIS alter ego as BH Davies) was as interested in the motor cyclists he encountered at Olympia as he was in the motor cycles themselves: "The Show is the first incarnation of a changed England. In former years, until the Saturday night came round, the stands were thronged by tweed suits and the Oxford manner. This year the bulk of the buyers who mean business are plainly men who wear fustian, corduroy and dungaree from Monday morning till Saturday mid-day; and most of them adorn the King's English with a charming burr or accent of some kind, which banishes wet, foggy London, and reminds one of bygone tours to the West or the North or to Shakespeare's country. We welcome these new recruits warmly on all grounds. Hardly less noticeable is the influx of riders of the fair sex. The Motor Cycle always prophesied their coming, even in days when petrol and petticoats were poles asunder. The war has transformed thousands of girls into embryo engineers. The scooter has opened the door to the mothers no less than the maids. The new wage standards have solved the special financial problems, for the modern maid does not have to wheedle cash out of Papa—she earns plenty, and can afford to motor cycle if she can resist the rival temptation of the lingerie shop. Whereas a typical 1913 customer wanted a single-gear 8hp JAP with overhead valves, a quite predominant type of 1919 customer is after a powerful combination with ample accommodation for several olive branches. He does not want a stunt machine. Most of his riding is done at week-ends. It is his safety vent from the mine, the factory, and the Bolshevik microber. There is no nurse to mind the babies, so they must come along as well. He plunges for solid, reliable family

transport. He does not mind getting dirty, for his job is a dirty one; so he is not as down on current mudguards as the man who wears pale mauve socks might be. The maidens, too, will have their say presently. At present they do not know enough to be sure what they want. They are acquiring their experience, and the critical mood will develop later. Besides, there have never yet been enough of them to interest the factories. At the moment, we can offer them very little choice. Many of them must elect to straddle machines designed specifically for males. But they will stamp their own hall-mark on the industry in a year or two. And who can doubt that their influence on technical developments will be a corrective...only a small percentage of the great crowds at Olympia last week have ever owned a lighting dynamo, a detachable cylinder head, a spring frame, a two-stroke engine, an overhead valve, or any flat twin larger than 350cc, not to speak of all-chain drive, automatic carburettors, integral speedometer gearing, four-speed gears, leg-shields, underscreens, and other items, which now excite no heavy comment from experts, and may all be standard practice within a year or two. Mechanically speaking, the real novelty of the Show lies in the popularisation of items which were semi-experimental in 1913.”



“Impressions of the Show.”

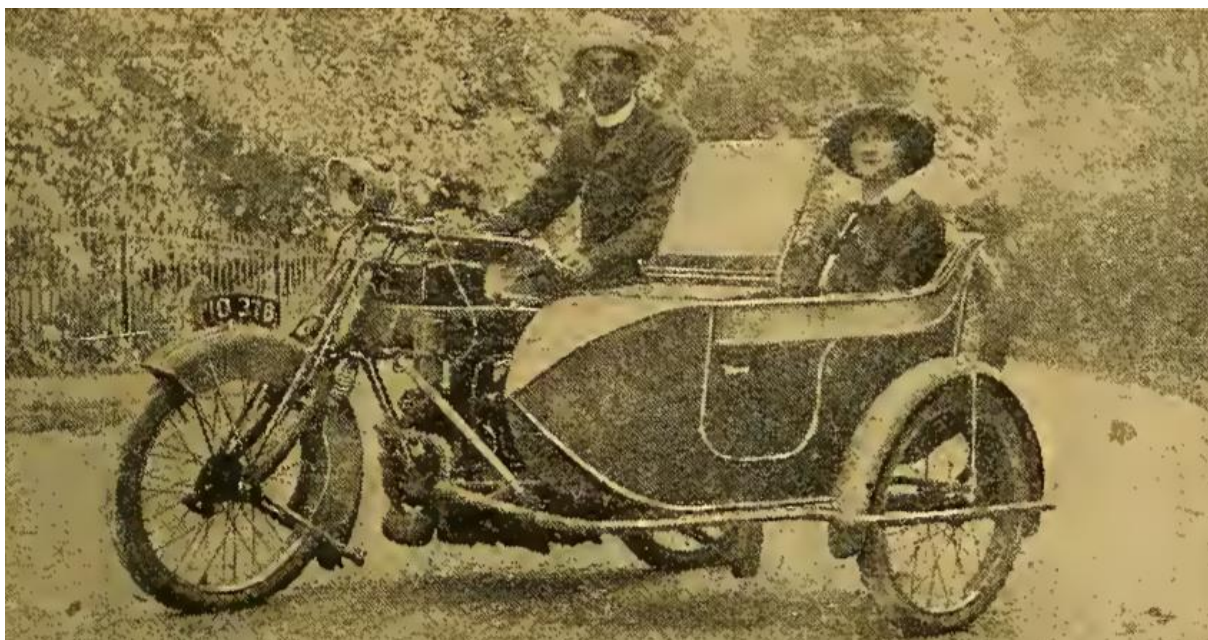
“IT OFTEN SEEMS STRANGE that revolution counters have never become popular among the motor cycling fraternity. They really provide a much more exact and reliable method of keeping a machine up to concert pitch and of getting the most out of a machine than a speedometer, and they would considerably enhance the pleasure of riding, at least to an enterprising and careful motor cyclist.”

JAPAN INTRODUCED LEGISLATION to license and regulate motor vehicles. Japanese brands weren't popular, foreign bikes were. ABC, FN, Sarolea, Scott, Cleveland flooded Japan and all but killed the nascent Japanese home industry.

THE BIRMINGHAM, SUTTON COLDFIELD, South Birmingham, Midland Cycling & Athletic, Redditch & District, Kidderminster, Nuneaton & District and Clarion MCCs considered amalgamating but decided instead to co-operate in staging three of the four Midland Centre open trials authorised by the ACU. The fourth permit went to an amalgamation of the Redditch, Kidderminster and Wolverhampton clubs. “The meeting also was strongly of the opinion that the distribution of permits had been very badly

carried out, in view of the importance of the centre with its 11 clubs, compared with the north-western district with only four clubs, which was allocated three permits.” [For the 1920 season the ACU issued on 20 open-trial permits for the whole country.]

“FROM THE CHURCH TO THE MOTOR CYCLE TRADE: It may be said that before the war almost every reader of *The Motor Cycle* had heard of the Rev PW Bischoff, who was so closely associated with competitions on the road and track. He was known as a keen Triumph and Clyno rider, and competed with success in many of the classic trials. Motor cycling was his hobby and the Church his profession. After serving with the Navy during the war, he has now decided on joining the staff of one of our largest manufacturers of motor cycles, and was to be seen on their stand during the latter part of Show week. Rev Bischoff has been a motor cyclist for just twenty years, and has the honour of having been the secretary of the Auto-Cycle Legion, an active body of riders called into existence by the War Office when the Government first realised the possibilities of the motor cycle as a war machine. The Legion was practically the embryo of the despatch riders, and the MMG, who covered themselves, with glory in the late war. Mrs Bischoff, too, is well known to all who followed the sport before the war. A very keen rider, as Miss Beatrice Langston she was the first lady competitor to win a motor cycle race at Brooklands. This was the 100 miles non-stop high speed trial organised by the BMCR Club.”

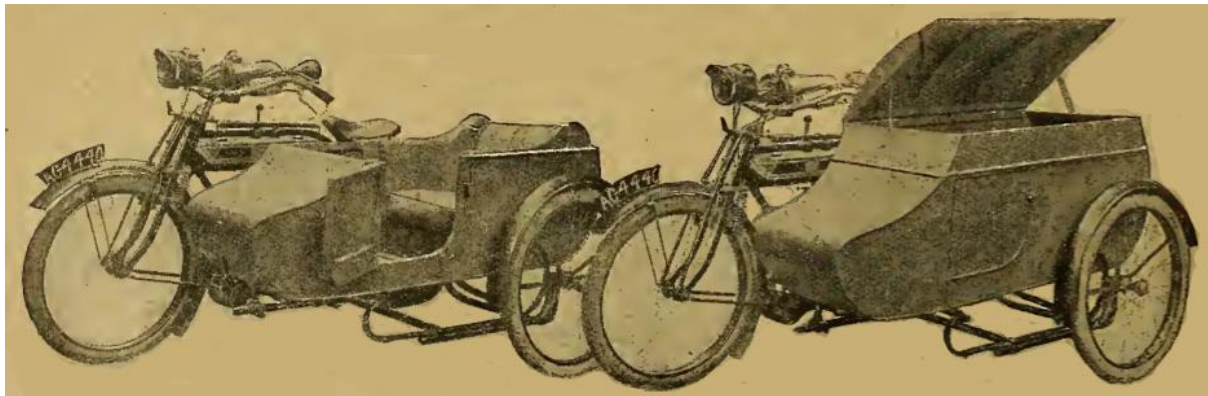


“The Rev PW Bischoff, who has decided to abandon the ministry and enter the motor trade. Mrs Bischoff is seen seated in the Clyno sidecar.”

“A SPORTING TRIAL AMONG MEMBERS of the Tank Corps Gunnery Camp at West Lulworth, Dorset has attracted an entry of about forty. One of the prizes is a cup awarded by The Motor Cycle for the most plucky performance in the face of adversity—an award to the man instead of the machine. In modern trials the competitor who has

the best machine has the, greatest chance of winning the chief award. The Motor Cycle idea is to encourage the man who has ill luck but 'carries on' in spite of it. The Tank Corps was originally recruited by *The Motor Cycle*, and the majority of its present members are enthusiastic motor cyclists."

"OLYMPIA WAS THE SCENE OF MANY REUNIONS. Not only did DRs and MMGS arrange many gatherings, but with the exception of the ACU Six Days Trials there has been no congregation of motor cyclists to approach the Motor Cycle Show. Even those who are in constant touch with the trade met many old friends whom they had not seen for the past five years."

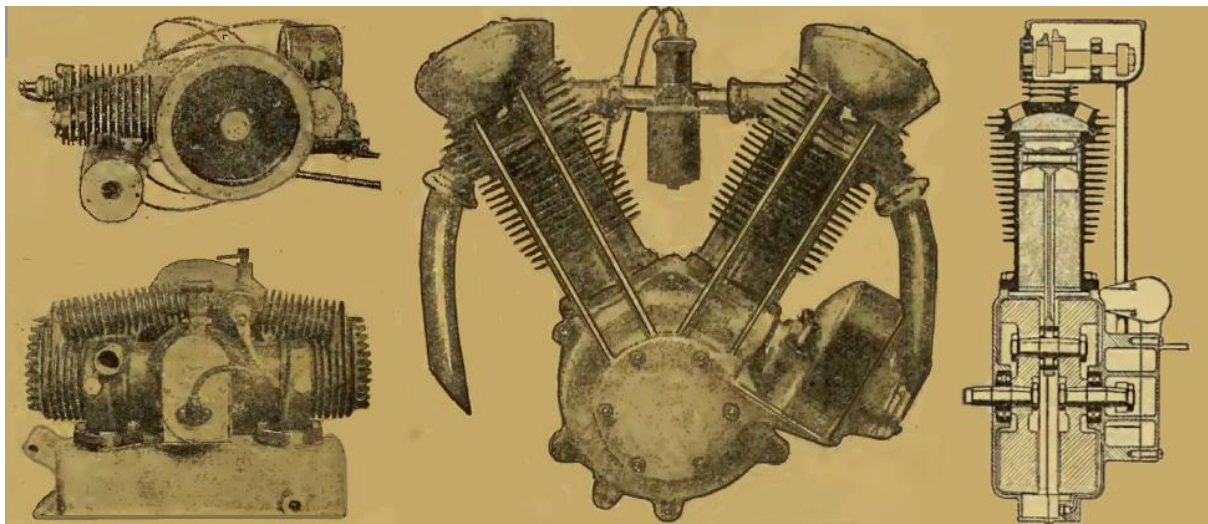


Simkin And Aldous of Coventry produced a dual-purpose sidecar that could accommodate a passenger or goods. "A detachable top, secured in position without tools, and having a hinged lid covers the whole of the body; when this is in position the side door may still be opened, a distinct advantage in wet weather when dealing with goods easily damaged by rain."

ENGINES WERE APPEARING IN ALL SHAPES and sizes. The Young "pedal cycle motor" was a 1 $\frac{3}{4}$ hp two-stroke. The Black Prince two-stroke flat twin had only one sparkplug. "A passage cast with the cylinder, heads brings this plug into communication with both cylinders, so that the explosion occurs in each simultaneously." The idea was to combine to torque of a big single with the balance of a twin. Ixion remarked: "In the car world it is quite common to find cylinders cast in one with the top half of the crank case but I fancy the Black Prince is the first motor cycle engine constructed on these lines, and it is certainly something of a feat to produce the entire 'body' of a 4hp flat twin out of two castings. [*Alldays & Onions subsequently pointed out that its Allon 2 $\frac{3}{4}$ hp two-stroke had been using this form of construction since 1914—and another correspondent pointed out that Jowett of Bradford, Yorks had produced a flat-twin two-stroke with a single combustion chamber in 1908.*]

Little brain waves of this type suggest how it may be possible to cheapen the motor cycle without making it nasty. If similar simplification were applied to every detail of a machine, we should see the long- awaited 'Ford' pattern two-wheeler arrive. Thirdly, debuting under the Metric banner, was a family of four singles and four twins. The

singles were rated at 2.5hp (255cc), 3.2cc (320cc), 4hp (400cc) and 5hp (500cc). The twins came in at 5hp (510cc), 6.4hp (640cc) 8hp (800cc) and 20hp (1,000cc). *The Motor Cycle* commented: "Incidentally, we are glad to see that this company nominally rates the power of its engines by a definite rule founded upon the cubical capacity of the cylinder, and that, as suggested several times in *The Motor Cycle*, 100cc is regarded as representing 1hp." Hence the first appearance of decimalised 3.2hp (and 3.5 rather than 3½hp) ratings. Of course Ixion knew all about them: "The Metric is turned out by a little coterie including Brewster, the ex-Norton expert, and Bacher, who has had a big finger in sundry JAP engines. It is not a hybrid between those two famous power units, though it evinces the cleanliness of both: for it has been heavily crossed with aero engines in the second generation. Overhead valves, with pump lubrication; two exhausts per cylinder and one inlet; cylinders with detachable aluminium combustion head; ball bearing crankshaft and roller bearing big ends (rollers and races by Hoffmann). It is a super-modern hot-stuff engine, and we shall hear a lot more of it. Mr Blackburne was in charge. I am not going to tell you the names of all the motor cycle magnates who have been sniffing at it, but he told me he had booked orders for 23,000!"



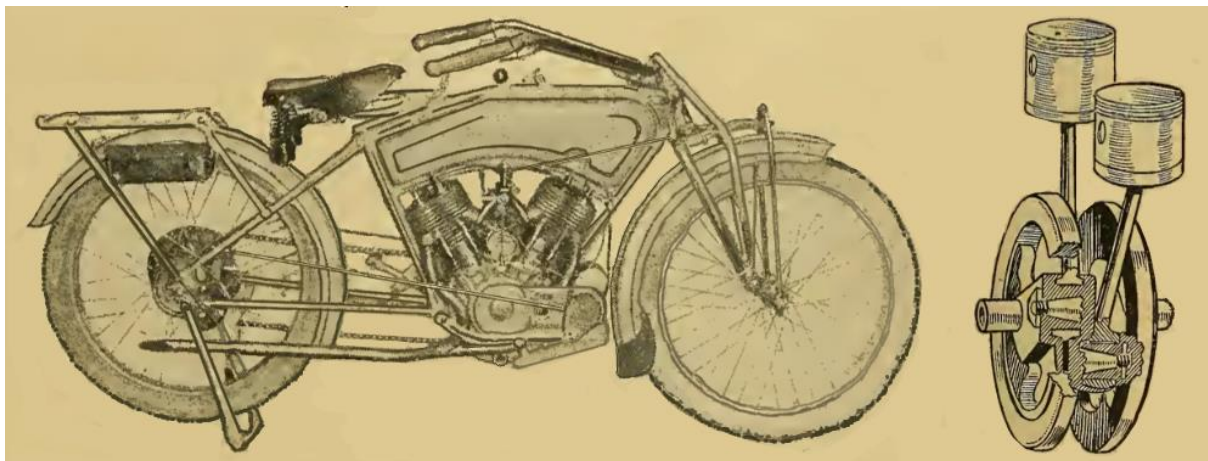
Three new engines that could hardly have differed more: The Young bicycle pusher, the Black Prince flat twin that thought it was a single and the mighty OHC Metric twin (with the option of a four-valve racing version).

"TWO OF THE EXPECTED REVOLUTIONARIES may be said to have made their bow," Ixion wrote. "The ABC as a mediumweight de luxe, the Precision as a mediumweight built down to the lowest weight and cost consistent with quality. A yawning gap remains. We are still waiting for the principal need to be supplied—the Ford motor cycle. The greatest demand of all is for a machine absolutely devoid of frills, selling at a rock-bottom price, and capable of 40,000 miles at economical maintenance costs. It need not be fast. It need not be any more comfortable than the average single-cylinder with a rigid frame (and that is not saying much). It cannot be conventional (or it will cost too much). It need not be beautiful (nobody ever loved a Ford for its looks). Simple, cheap,

substantial, and a reliable goer—who will be the first to build it? It would be of incalculable political value, for it would ventilate Bolshevism out of the country, arrest the trek off the land, and, incidentally, expand its producer into an international financier of the first water.”

“THE PRICE OF PETROL IN THIS COUNTRY is twice the amount charged in New York. It is delivered to the tankers for shipment to England at less than a shilling per gallon, yet motorists on this side of the Atlantic are called upon to pay three times this amount. Until Britain produces fuel at a reasonable price, motorists will always be at the mercy of the Trusts.” A committee was formed “to inquire into petrol prices under the Profiteering Act” with members from the Board of Trade, Petrol Control Board, Vehicle Workers’ Union, Commercial Motor Users’ Association, Horse and Motormen’s Union and Harrods. They were inquiring into “the reasons for the difference between the landing price of petrol, 1s 9d per gallon (including tax), and the retail price, 3s 0d per gallon”.

ONLY ONE IVER-JOHNSON 1,018CC 7-8HP TWIN made it over the pond before its Massachusetts manufacturer stopped production to concentrate on firearms. The Blue ‘Un reported: “In general, the machine leaves much to be desired by the English rider. The handle-bars are narrow, while the transmission is by long single chain.” A two-throw crankshaft gave even firing intervals. Clever engineering but...”It may be recalled that a V twin engine manufactured by Messrs. Alldays and Onions embodied a similar double throw crank pin to obtain even firing.”



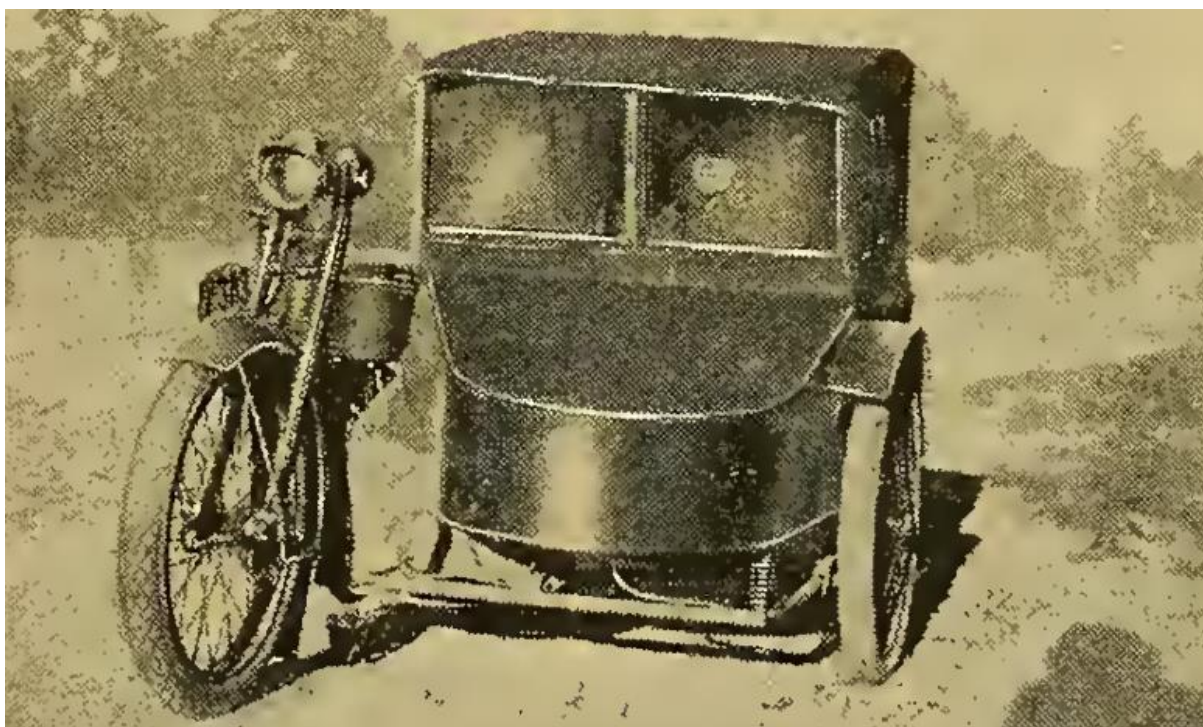
“A powerful American machine little known in this country. Two-throw crankshaft of the 7-8hp Iver-Johnson V-twin which permits even firing.”

“THE MOTOR CYCLING CLUB’S ANNUAL DINNER was held at Gatti’s Restaurant on Saturday evening last under the chairmanship of Lt-Col Chas Jarrott, OBE, the president of the club. After proposing the health of the King, the Chairman rose to propose the Motor Cycling Club. It was, he said, difficult to realise that the last dinner that the Club had held was in 1913, so much had happened in between, many members then present were no longer in their places. Many had joined up at the outbreak of hostilities.

Efficiency was the tradition of the Motor Cycling Club, and, owing to the training they had received in the Club competitions, they had done extraordinarily good work as despatch riders. The war had helped enormously to develop the motor cycle; it had increased production, and many present riders of motor cycles would never have been motor cyclists had it not been for the war. When the country was short of men, women motor cyclists had stepped into the breach, and had done their duty nobly. He believed that the RAF was first to employ ladies as motor cyclists to any extent.”

“SIR,—THE INVENTOR SOMETIMES THINKS that he knows, and sometimes the spectator has a say. ‘Oh! what is it?’ It has no particular shape. It is absolutely weatherproof. Seats two with comfort. The seat back is detachable, and forms part of a mattress for sleeping on. The space behind the seat holds 60lb of luggage. The space in front beyond our feet holds another 40lb. We have travelled 800 miles and slept in it ten times. It can be driven hands off on a level road. The body has no side next the machine. The box for the driver’s feet is unsprung and has flexible canvas sides, the rest of the body being sprung. The hood is detachable, but we always leave it up on account of the dense clouds of dust on our Sydney bush tracks. Ingredients? Yes! One Harley-Davidson, £115; chassis and alteration, £38; body material, etc, £15 (body home-made). Take the Harley-Davidson, strip handles, footrests, front stand, clutch, foot mechanism, carrier, seat, and seat-pillar. Change the foot brake to the opposite side and well forward, work the ignition control by a small lever near the magneto. Connect the chassis, put the body on, fill in spaces with canvas, allowing for springing motion, fill the tank, put in fishing rod, bait lines, enough food for four meals, pillows, blanket and sundries, leave home at 1.30pm on Saturday, over the hills to the favourite spot, back again Sunday evening or Monday morning. Petrol, 35mpg. Hills? Climb anything up to 1 in 3 so far. If any manufacturer cares for the design let him wire in, as it is fully unpatented. We cannot manufacture here, on account of high wages. In conclusion, let me say that the outfit is satisfactory in every respect, and has been tested on the roughest tracks imaginable. We have solved the problem.

Louis Russell, Sydney.

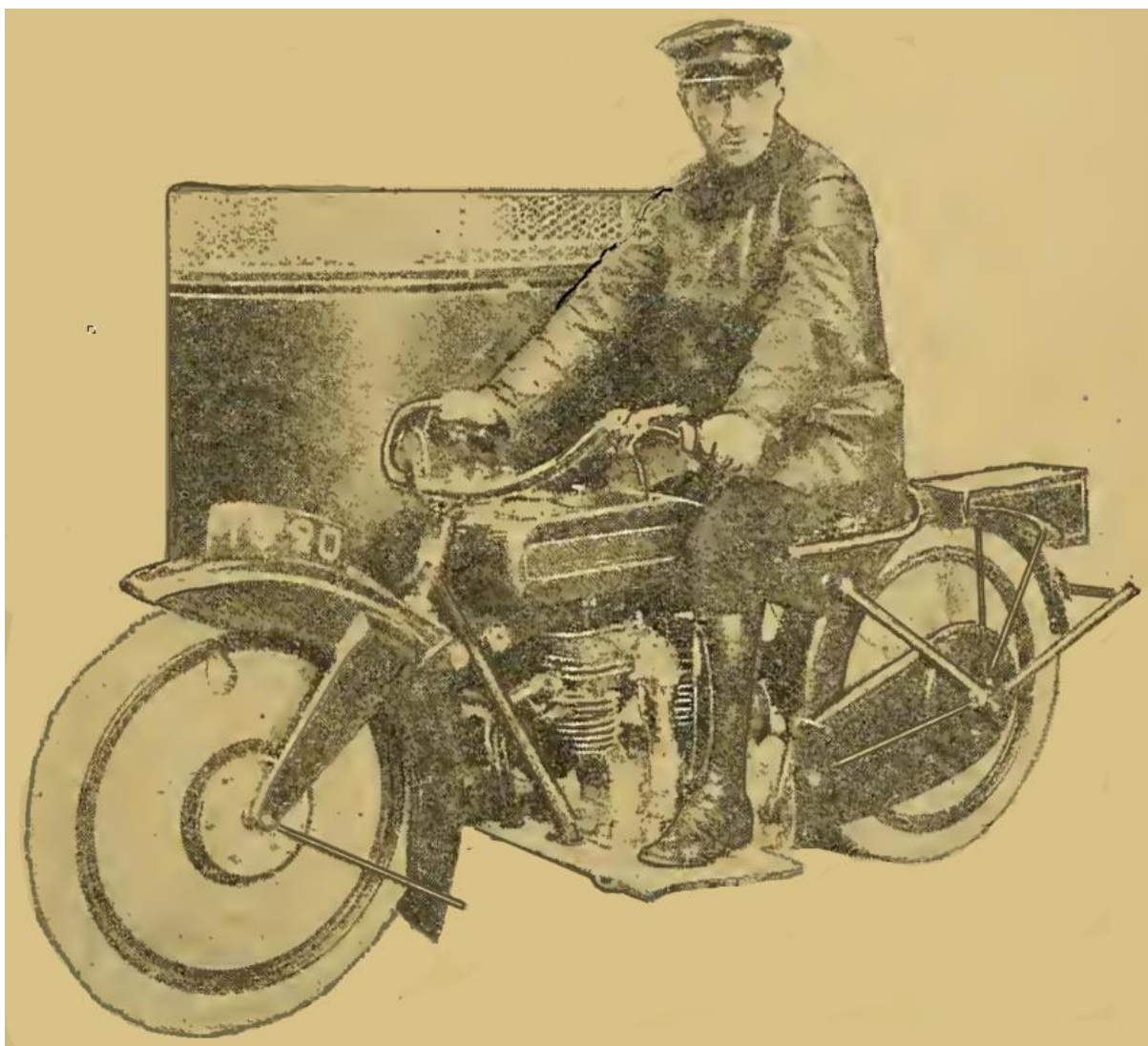


“Protection from the elements at a cost. A two-seater sidecar, with interior steering and controls, referred to by our correspondent, Mr Louis Russell.”

“ON THE ROAD WITH A 1920 TT NORTON: For the past three months I have done most of my riding on a post-war model of the TT Norton, which is to be retained without further alteration for 1920. This famous machine has long been at the top of the tree in its class, and though it has yet to win the TT, its Brooklands record is probably unsurpassed, and it enjoys a unique vogue amongst speed-loving roadmen. The principal impression which it has made upon me is one of power. If there is a heftier 3½hp on the roads of any country, I should like to meet it. On the level it accelerates from a crawl to the sort of pace which is often talked of but seldom experienced outside Brooklands: it is a mount which a sensible rider will very seldom dare to open out to the full on the road. Uphill its second gear is more than sufficient for any hill at which a run is obtainable; indeed, it should be handled with caution even on single-figure gradients, which it can devour at the most ferocious gait on full throttle. Bottom gear is never necessary except when a very rough surface or a very sharp corner suggests extreme caution in the matter of pace. On the other hand, the machine is as docile as a lightweight. The arc of the throttle opening is long, and the acceleration is smooth and gradual; if a firm fore-finger is kept on the throttle lever, the machine will burble along like a sucking dove, and a raw novice will find it controllable in thick city traffic. The second merit of the design is the quite extraordinary smoothness of the chain drive. Many experienced riders still hold that chain drive is necessarily harsh behind a single-cylinder engine, and especially behind a power unit of the TT type with a high compression ratio and big ignition advance. Half an hour on the new Norton would disabuse them. It is no exaggeration to say that the 1920 Norton chain drive is as

smooth as any belt has ever been, and—until the chains and sprockets show signs of appreciable wear—quite as silent; the only perceptible noise is the faint hum of the gearbox. It shows an immense advance over the chain drives of pre-war days, an advance which I believe to be characteristic of most high-class modern productions. Nobody could yearn to revive the belt after a taste of this quality, and I do not wonder that Mr Norton has scrapped the belt on all but his track models. During prolonged hard work of a ruthless character, combined with the negligent upkeep to which most journalists' machines are foredoomed, the machine has shown great reliability. No misfires, engine stoppages, or transmission troubles of any kind have been experienced. Two nuts have evinced a disinclination to remain in position, namely, the nut on the offside of the brake pedal spindle, and the nut securing the offside struts of the carrier to the rear fork lug: the former is rather a serious mishap, if unobserved. One part may be regarded as weak either in design or material, according to one's standpoint. The exhaust valve tappet is lifted for control purposes by a lever pivoted to a crank case bolt; the eye at the end of this arm is slotted to facilitate fitting the Bowden wire. The lever is apt to crack across the slotted eye; and a new lever cannot be fitted without dismantling the exhaust valve.

Road Rider.

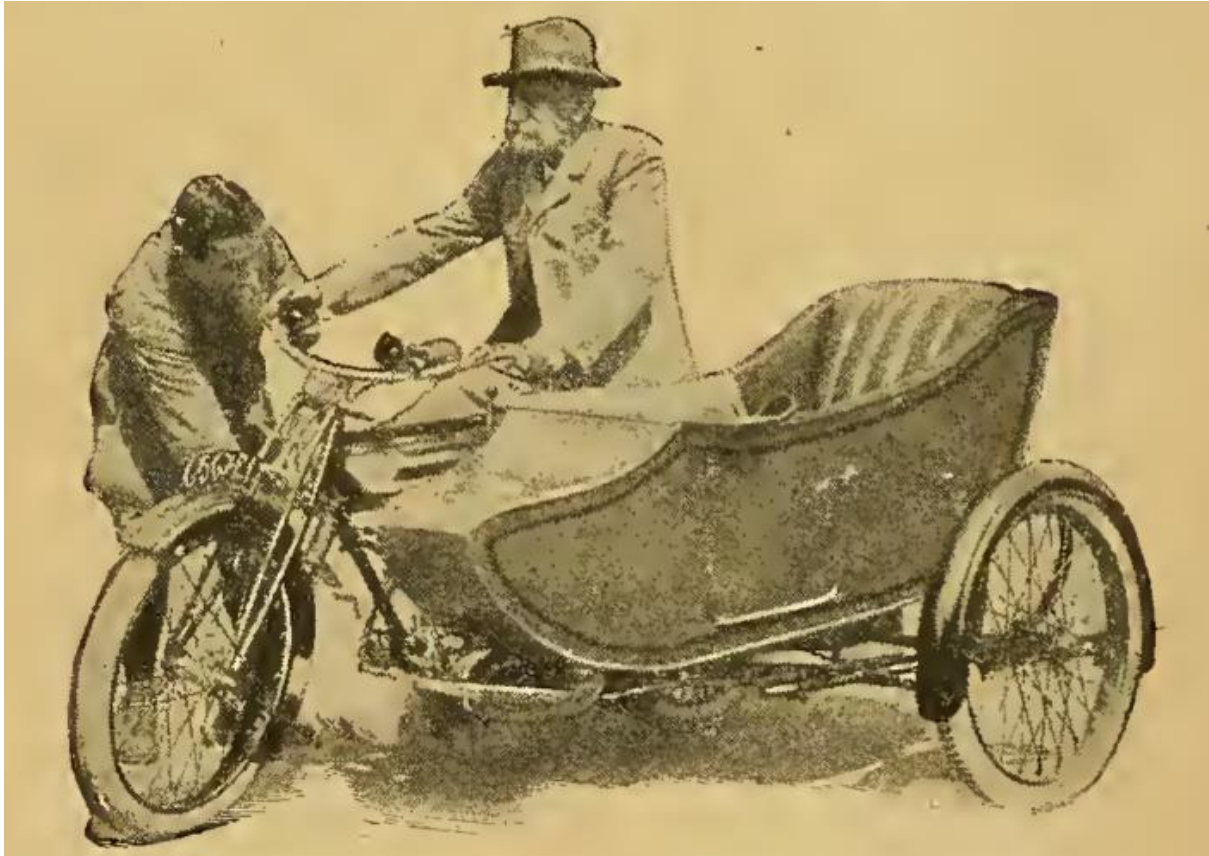


A group of former French Flying Corps officers set up a delivery service in Paris using combos and immediately secured a contract to deliver all the city's newspapers. They used 60 Louis Clement ohc twins (pictured) but also bought 50 of the ABCs built under licence by Gnome-et-Rhone and imported 50 Beezas. Most of their riders were former DRs.

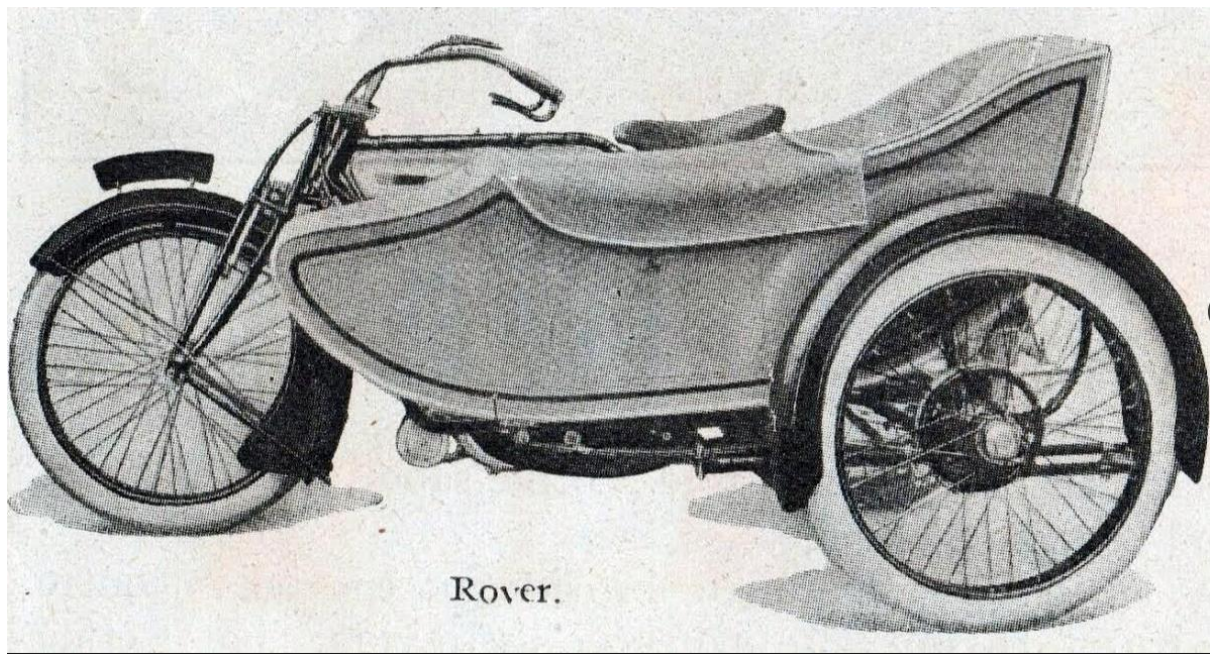
"VACUUM FLASKS AND THE LONDON-EXETER: Competitors will be glad to learn that in addition to the usual provision at the Bridge Hotel, Staines, Miss Dixon, of the Mikado Restaurant, near the hotel, is arranging to fill vacuum flasks with tea, coffee, cocoa, etc, and also for suppers...This run was inaugurated in 1910, when 78 entries were received. In 1911 the entries increased to 119. The 1912 event attracted 163 entries, and in 1913 no fewer than 231 numbers were issued. This year the total entry numbers 40 solo riders, 67 sidecars, and one car and one scooter."

THE BLACKBURN, BURNLEY AND PRESTON MCCs amalgamated to form the North East Lancashire MCC.

HERE'S A BRIEF BURST of Ixion: "As the result of bad attacks of Showitis, a colleague on the staff of a sister journal and myself are spending a brief holiday in the wilds. He is one of those opulent, indolent, corpulent, flatulent people who drive cars; whereas I—well, all veteran motor cyclists motor cyclists have a lean, Aussie kind of look, due to many years at the run-and-push start..."

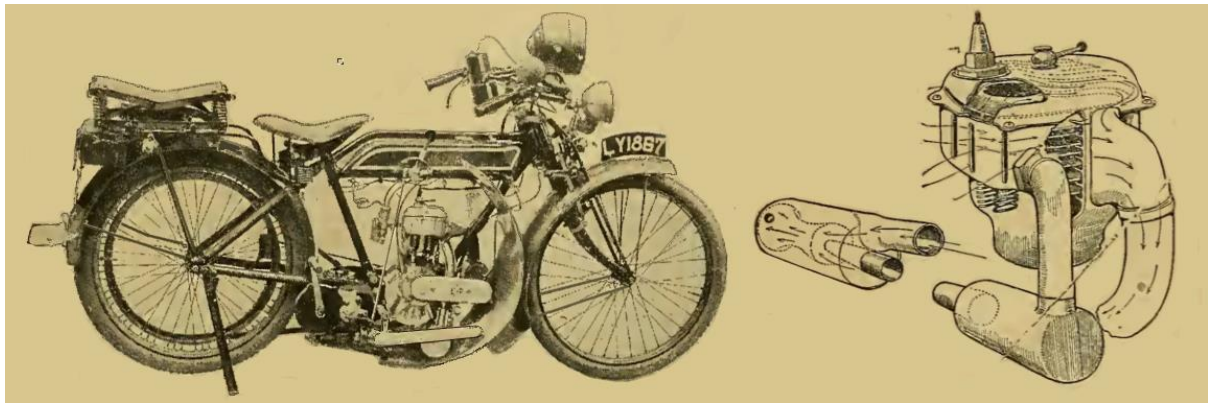


"The Prince of Monaco, aged 71 years, taking delivery of a new 3½hp Rover sidecar in Paris. It is to be used on the devastated land in the Department de l'Aisne, which is to be rebuilt under his control."



This (French) catalogue pic shows the fine lines of the Rover sidecar.

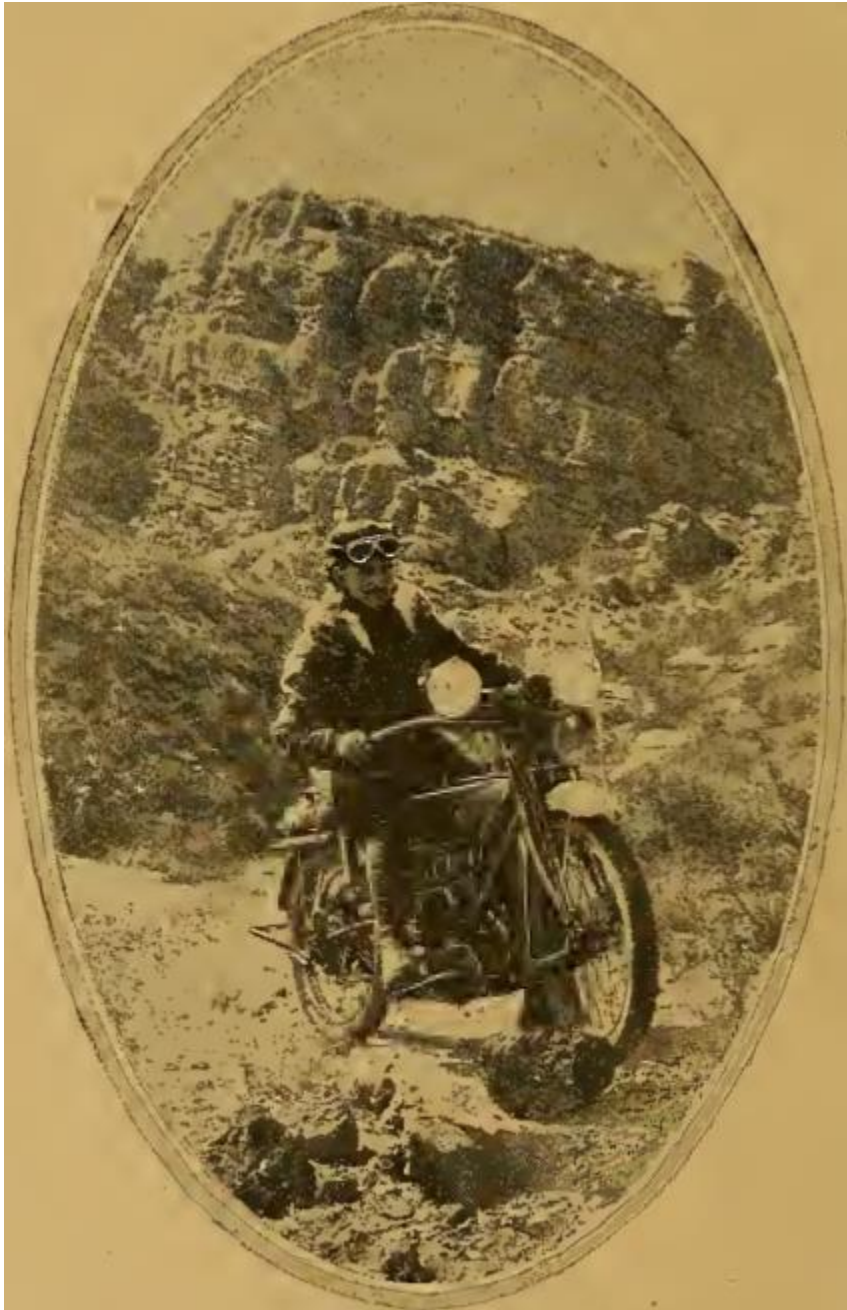
“ENGINEERS HAVE AT LAST BEGUN TO REALISE that there are other means of cooling by air than casting cylinders with fins thereon, and leaving the rest to chance. Air-cooling has been rendered more suitable for internal combustion engines by methods of constructing the engine; for instance, by the use of steel cylinders and aluminium pistons, and also by extraneous means...This ingenious idea has been brought out by Mr Hawley Morgan, formerly a member of the staff of this journal. He has left nothing to chance, and has worked out the whole system most thoroughly. He entirely encloses the cylinder in a cast aluminium jacket, which in no way interferes with the general design of the engine, as the same valve caps are retained, the valve springs are outside it, and everything is just as accessible as it was before. It is fitted to a 2¾hp JAP on a New Imperial machine...The existing silencer is retained, but it is provided with a small cone-shaped exit pipe. Connected to this there is an additional silencer or chamber in which there is a special ejector (giving about 6½in vacuum) connected by a rubber hose pipe to the suction pipe on the aluminium casing. On the right of the slot to which the suction pipe is attached is a barrier of a diatherminous substance. In addition to the cylinder being provided with fins, there are also aluminium fins on the casing. Cool air is drawn in a continuous stream through- the slots arranged round the casing, causing a current of air to pass through the fins not only on the sides of the cylinder, but also directly over the head...When started it is easy to see that a strong suction is developed, as it will even suck the ash off the end of a cigarette and draw it in. When the pipe is coupled up the flame from a match held near one of the slots is visibly drawn towards it. With this cooling system it is quite possible to shield the engine entirely, with the result that the rider can travel through any road conditions without getting a speck of mud thrown up either on the engine or on himself.”



“The 2¾hp New Imperial, to which is fitted a unique cooling device for the engine. (Right) Details of the air-cooling system devised by Mr Hawley Morgan—inset shows the special ejector which creates a vacuum.”

THE AA AND MOTORISTS’ UNION staged a 5,000-mile benzole test “to demonstrate that benzole had no deleterious effects on the engine and tank. In every way the test may be regarded as being highly successful, and removes once and for all the false impression which had existed in many minds that benzole caused corrosion and undue wear and tear.” A 4hp Triumph outfit ridden by a triumph factory rider was stripped and checked by the Institution of Automobile Engineers and the AA at the start and finish of its 5,029 run. Carbon deposits were found to be about half what would be expected from petrol; “the fuel tank was clean and bright inside, and in excellent condition. No signs of corrosion were discernible, and the presumption that the enamel round the filler cap on the outside of the tank would have been removed by the action of benzole did not materialise. The condition of the enamel was exceptionally good.” The outfit averaged 84mpg with a worst of 67mpg over 105 miles and a best of 110mpg over 137 miles. Average speed was a shade under 20mph.

“WE LEARN THAT OF THE TEAM OF SIX machines entered by one firm in the forthcoming French Scooter Trial, three will be ridden by well-known actresses, and the others by a champion pugilist, a famous golfer, and a French ‘Ace’. Since a correspondent recently complained that so far scooters appear to have been manufactured solely for the benefit of such notabilities as actresses, golfers, and journalists, and as the above list rather bears out his statement, we feel that at any rate we have been in good company.”



“Hill-climbing in Arizona:

An American competition rider, HC Schefer, who established a new record for the Three-flag Course (from the Canadian border to Mexico) on a Harley-Davidson by covering the distance (1,716 miles) in 64 hours and 58 minutes.”

“A QUESTION WAS ASKED IN THE HOUSE of Commons recently regarding the number of motor cycles sold through the War Motors Association since August last. The reply of Mr Kellaway was that 484 machines had been purchased by the Association mentioned, while the number otherwise disposed of by the Ministry of Munitions (Disposal Board) was 6,011.”

“APPARENTLY THE END OF THE WORLD, so confidently predicted by some people to take place last week, has, like a drought once foretold for a certain summer in Australia (which summer proved to be the wettest on record), been postponed owing to the

inclemency of the weather. Those of our readers who threw away all their petrol as being dangerously inflammable for such an occasion will have to purchase fresh supplies.”

“IN AMERICA THERE IS AN ELECTRICALLY-DRIVEN light car which weighs less than 10cwt, and which carries its own charging plant in the form of a small air-cooled engine. If this is possible, then the petrol-electric motor cycle, with infinitely variable ratio between power plant and road wheel, is feasible.”

“THOSE BUYERS FROM ABROAD who visited the 1919 Olympia must have been impressed by the many machines obviously designed to suit their special requirements. No longer can it be said that the British motor cycle is unsuitable for Overseas, as the majority of new machines appear to lean towards the ‘Colonial’ specification even at the expense of the demands of the rider in the home country...Chain drive is now almost universal on heavy machines, and 28x3in tyres the general rule. Among the many machines so equipped may be mentioned the following: Ariel, AJS, Abingdon, BSA, New Imperial, Matchless, British Excelsior, Rex, James, Clyno, Sunbeam, Enfield, and Royal Ruby. All of these machines have been designed with a view to meeting the demands of Overseas’ buyers so often urged in The Motor Cycle...Quickly detachable and interchangeable wheels are becoming general practice on sidecar machines and several are equipped with a spare wheel, which, incidentally, is a point not yet covered by American machines.”

THE GOVERNMENT MOTOR VEHICLE REPAIR DEPOT at Slough was refurbishing about 50 ex-WD bikes a day. “A large percentage of the machines are, as may be expected, in a very decrepit and incomplete condition, and have practically to be reconstructed throughout...Apparently, no attempt is made to put them in first-class running order, but, after assembling, each machine is subjected to a short road test, and should be fit for hard work on the road after a little tuning up. After all mechanical defects have been attended to, the machines are painted, though a high standard of finish in this connection is not considered necessary.”



“Sidecar chassis and bodies awaiting entrance to the Repair Department.”

“UNITED STATES NEWS LETTER: More proof of the tremendous awakening of motor cycle interest, following the return of four million men from Army service, and their

desire for out-of-door sports, may be gleaned from the fact that a machine of a new make and another that has been off the market for five years will soon be ready for delivery. The latter is the Eagle, a motor cycle made in Brockton, Mass, with a limited following. The newcomer, which is being made in Philadelphia, has been named the Ace. It has been designed by William G Henderson, of four-cylinder motor-cycle fame [*Henderson had sold his original four-pot design to Excelsior two years before and worked for them until differences of opinion led him to go it alone, taking care not to infringe Excelsior's patents*]...The Harley-Davidson Co is experimenting with a larger motor. A very fast and



William Henderson put his four-pot expertise to good use in the Ace. The 68x82mm 1,192cc IOE engine developed a claimed 20hp; a generator was available for electric lights..

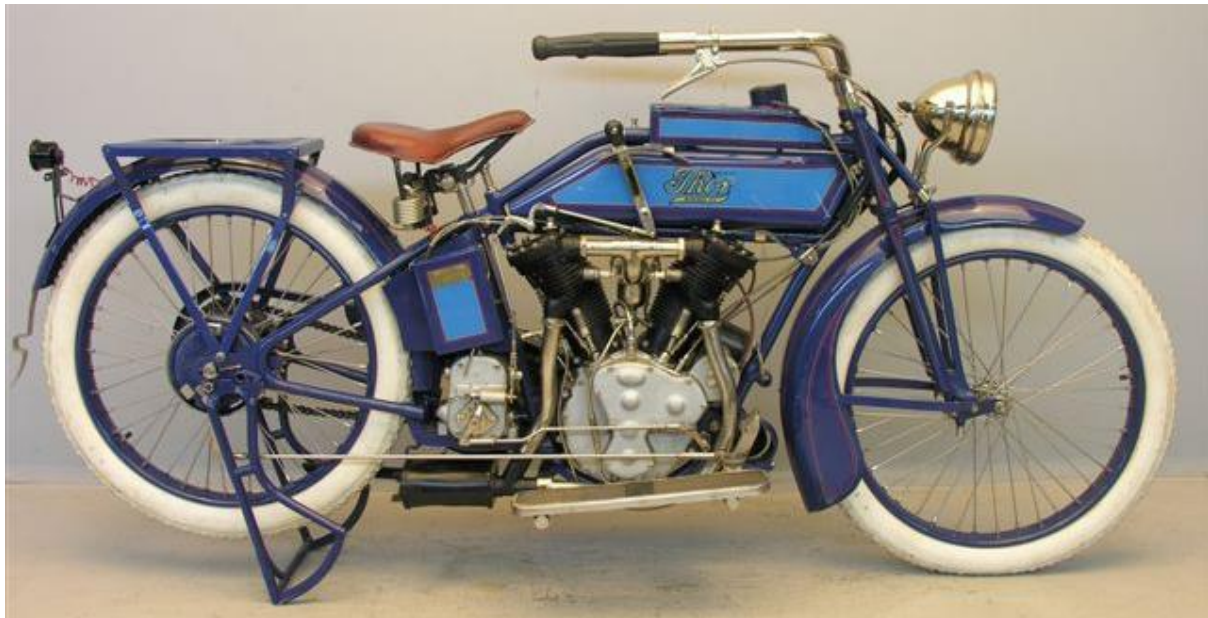
powerful Harley-Davidson has been seen in local hill-climbs. It has a piston displacement of over 1,100cc...The Harley-Davidson policy has ever been to hook up the rider with the dealer in more ways than merely selling motor cycles or sidecars. These folk have a complete line of riders' needs, from gloves to sidecar robes, all carrying the Harley-Davidson shield trade mark, and sold in their agencies exclusively. The goods are all of the highest quality, and adapted to motor cyclists' needs...The Excelsior retains the familiar overhead intake valve engine, that has been refined and improved but little since it first came on the road in 1912. The motors will be made in two sizes: 1,000cc and a newcomer that will rate about 1,100cc, for it carries a 101mm stroke. This fills a demand for a more powerful motor for sidecar work that has been insistent among motor cyclists since sidecars leaped into popularity...For the 1920 campaign of dirt track or speedway racing, the Excelsior is experimenting with the well-known and speedy



Excelsior

was having fun with Cyclone engines.

Cyclone motor, that flashed across the American horizon like a comet a few seasons back. The Cyclone has plenty of hop in it, and is an overhead valve motor with valve mechanism actuated by shaft drive to overhead cams. When the Cyclone was in evidence on the track in 1914 or so, it was an amazingly fast sprint machine over the shorter distances, which is a mark of the overhead valve engine. Excelsior engineers are putting staying qualities into this rejuvenated Cyclone, and it will be seen in action in several speed events during the coming year...After lingering on the edge of oblivion for several seasons, the Thor motor cycle has gone to its rest. The Thor was one of the pioneer American makes, and played a large party in the early history of the pastime, but since 1913 it has been losing popularity with the riders. Made by a company that did not have every interest tied up in the motor cycle industry—for the makers of the Thor are big producers of automatic machinery—the design did not keep closely to riders' wants, and although the engine was powerful and material and workmanship of the best, Harley-



It was the end of the road for the Thor motor cycle as its manufacturer decided to concentrate on machine tools.

Davidson, Indian, Henderson, Excelsior, and Reading Standard outstripped the Thor in appealing to the exacting demands of riders...It is to be regretted that the American market is being limited gradually. We have six makes of varying popularity that cater to riders' wants. There are four twin-engined motors, one four-cylinder, a flat twin, and a two-cycle motor...there are overhead intake and side-by-side valve motors. Variety is the spice of life, they quote some wise bird as saying—well, the British motor cycle market may have that spice; obviously we Americans do not get it. And last but not least, one make of carburetter takes care of the entire American market. How's that for an unhealthy condition of trade, and a discouraging of advance in carburetter design? You British riders do not know when you are well off. You can pick anything from a light TT model, stripped to the bone for fast rolling, up to a de luxe sidecar outfit, hung about with fitments in such variety that it is like a Christmas tree on the morning of December 25th.

EB Holton”

“MOTOR CYCLISTS WHO WILL RISE from their Christmas festivities to participate in a long distance trial are regarded as madmen by those who are less keen, but, undoubtedly, such events help to make the motor cycling movement what it is to-day...we think the real attraction of such events is love of adventure, which has gone so far to make this country what it is and which contributed so much to winning the late war. It is an excellent thing to find the young manhood of our country is inspired with such a spirit, so awake and enthusiastic at a time when one may reasonably expect an attitude of apathy after the strenuous times during the war. As tests of machines these trials pale before their severity as tests of men, yet a majority, will come through smiling, with awards to their credit which they will thoroughly deserve. And who benefits by such

trials? The country as a whole; because they help to breed strong, resourceful, hardy men who are not afraid of discomfort to bring about an end, and motor cycling posterity, because they help to breed better motor cycles.”



“GREETINGS: LITTLE OVER A YEAR has elapsed since the signing of the Armistice, and motor cycle matters are once again assuming a more normal aspect. Many of our readers have been disappointed at being unable to obtain new mounts, owing to the fact that mass production has not yet got into its stride, and that manufacturers have been held up by labour troubles and shortage of materials. At this season of the year it is opportune to remember that our motor cycle manufacturers played an enormously important part in the winning of the war, and that many of them have experienced a very difficult time in reorganising their works for motor cycle production. At the close of the year we may look back on the past with satisfaction. Never has there been such a demand for motor cycles as at present. Never has there been such promise of progress on sound and satisfactory lines, and never have we known a time when more large and important business firms have turned their attention to satisfying the needs of the motor cyclist.”



“One of the most fascinating figures in romantic history is Dick Turpin, who, but for his famous, even if legendary, ride to York, and the death of his faithful mare, would have been lost to fame with many other rascals of the same ilk. To motor cyclists who have competed in the London-Edinburgh run, Dick Turpin’s ride is particularly interesting, since he used the Great North Road, but it is doubtful whether any aspirant for an MCC ‘gold’ has ever been asked to ‘stand and deliver’ by the shade of a masked horseman.”

“OF THE TWO CHRISTMAS HOLIDAY EVENTS which will be run this year, probably the London-Exeter run organised by the MCC is the better known. It is as ‘classic’ as the TT and the ACU Six Days, with which it may be said to form the triangle of types of motor cycle competitions. The first trial was held on Boxing night, 1910, and was the outcome of a suggestion which appeared in *The Motor Cycle* from the well-known competition enthusiast, Mr W Cooper.”

“OWNERS OF WATER-COOLED SCOTTS, Williamsons, and Humbers take warning! If it is freezing when the Christmas festivities commence, empty your radiators. In the whirl of *Sir Roger de Coverley*, machines may be forgotten.”

PEACE BROUGHT A WELCOME RETURN to club life, the Olympia show, the classic trials—and *The Motor Cycle* Christmas story. Enjoy.

A Queer Christmas.

THE STORY OF A CREDULOUS SPEEDMAN.

THE SS *ORIENT QUEEN* WAS SLOWLY BORING HER MAJESTIC WAY through the Eastern Mediterranean with 2,000 assorted troops on board. Though they were proceeding homewards for demobilisation, the passengers' feelings were somewhat mixed, for the night was Christmas Eve. On the one hand, it was certainly good to have done with the Army for ever, or so they fancied, for yearnings after the old khaki comradeship do not begin on the voyage home. Yet for most of them, sailing orders had come a good fortnight too late. Home in large doses is apt to be boring; but few of the *Orient Queen's* passengers had seen home for four years or more, and, anyhow, home has a trick of pulling at one's heart-strings towards Christmas time. There were scraps of every fighting unit 'out East' below the decks; but few were boisterous, even of those who did not feel the return to heaving open waters after the peace of the Suez Canal. In fact, three officers, lolling in a small cabin, bore every appearance of being thoroughly bored with life. The colonel was idly glancing over a month old copy of the *Times*, which had come aboard at Port Said. "So Lord Mintshire's got his decree all right, he drawled presently. "Awful bad lot that woman must have been. Did you read the butler's evidence?" Majors ought not to interrupt colonels, even if the colonel belongs to another regiment and is half-demobilised at that. But the major was not interested in the ex-Lady Mintshire's morals; so he interrupted—with a yawn, too. "Queer place this to spend Christmas," he said wearily. The doctor knocked out his pipe, with a grim reminiscent smile. "I've spent one in a queerer." He spoke with a curious emphasis. The major looked up quickly. "Blenkinsop for a yarn," he demanded. The colonel reluctantly bade farewell to Lord Mintshire's matrimonial miseries. "Let's have it, Blenk; the drinks are on you if



Presently I sighted the dust of a big car, perhaps a mile and a half ahead, and down went my nose on the lamp bracket.

it's a slow tale." So Blenkinsop began. "My old dad knew all there is to be known about wool, and precious little about anything else. S'pose that was why he sent me to Cambridge to learn medicine. 'Varsity did a lot for me. Played footer fairly well; owed pots of money; acquired original and expensive tastes in dress; got a degree of sorts; but learnt no medicine. Right at the finish—the very last week—there was a ball. There may be men who can share a punt down the Backs by moonlight without making asses of themselves. I couldn't. Least of all with Dolly. Any greenhorn would have found her irresistible. Tremendous blue eyes. Slim little figure fully of twisty little wriggles. Laugh like a bell. Yellow curls always blowing about and having to be patted back into place. I

proposed—there's been champagne you understand. She accepted. I walked home on air. Next morning snags developed. Her papa frightfully rich; I just a raw young sawbones with a fifth-rate degree and no particular prospects. Decided I should go down to Winchester and interview her papa, whilst her angry auntie whisked her back to town. I decided to ride down on my Triumph motor cycle. Thought it might cool my head. Got off early, and let her rip. Began to feel better. An hour or so blew the fumes of Dolly and the fizz out of my noddle, and I began to sit up and take notice. Presently I sighted the dust of a big car, perhaps a mile and a half ahead, and down went my nose on the lamp bracket. I'd done perhaps a mile at quite a tidy speed when there was a roar and a rattle alongside, and some other bicycle shot past as if I'd been standing. Well, my old 'bus was only a roadster machine, but she was in pretty decent tune and game to touch 55mph on the straight anywhere. I was some narked, I can tell you, but I'd hardly time to wonder what had mopped me up so easily when the other fellow began to slow down and shot out his left arm across me as a signal to stop. I thought it was pretty cool cheek to mop up a fellow like that without giving me a chance to get my own back, but I wanted to spot what he was on before I challenged, so I throttled down. As for him, he didn't wait to slow his 'bus right off. He jumped down when she

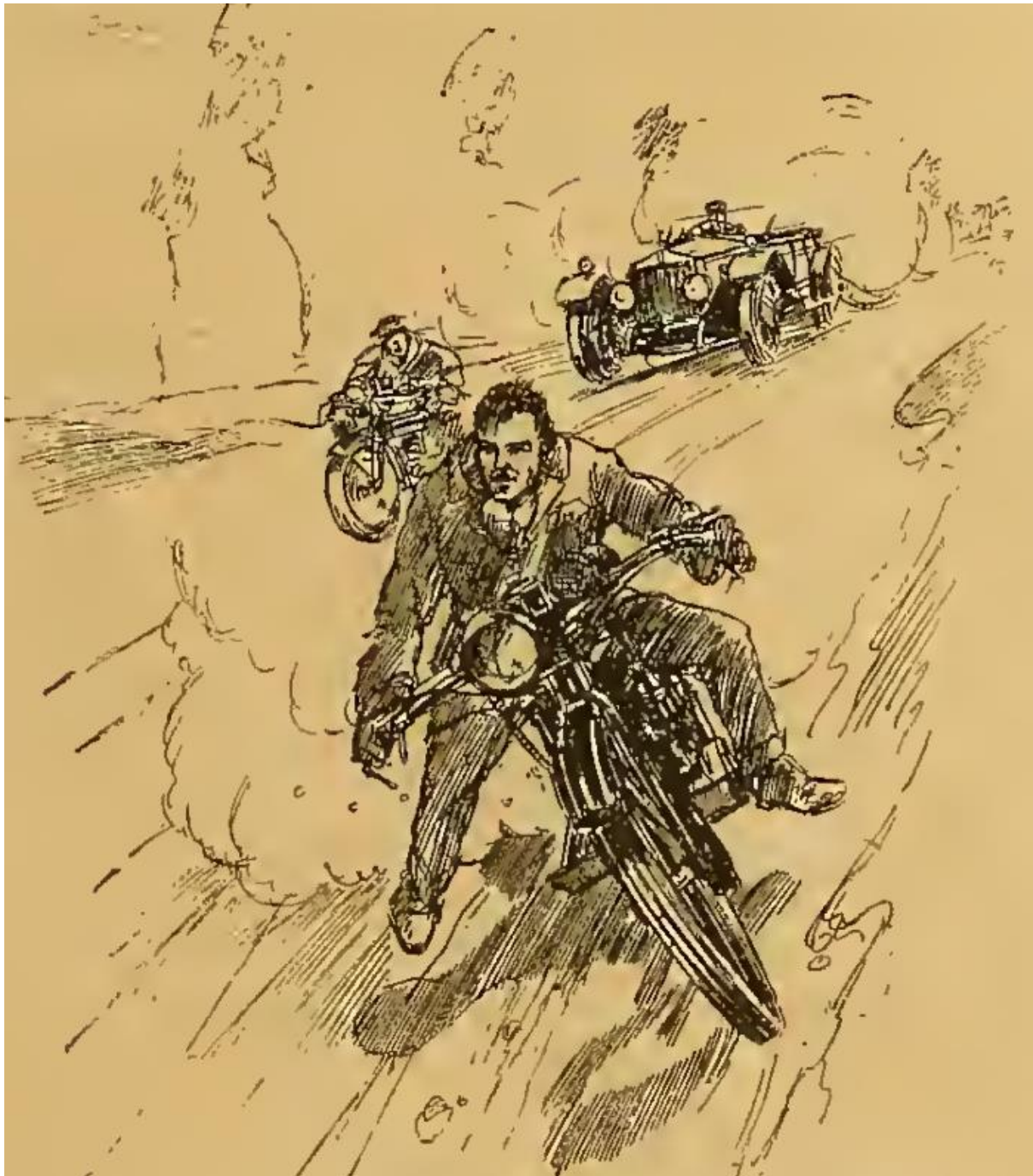


“D’you

mind it the fellow is armed?” he bellowed, as our engines accelerated with a thunderous roar. “Not I,” I cried recklessly.” So we got our noses down, and we fairly ate up that straight white road.

was still doing a cool twenty, I should think, and he had to gallop like a hen to stop her dragging him over. I cocked my eye at him as I came up, and I saw he was on a Brooklands Norton—they can do seventy, you know, so I wasn’t going to take him on any more. He looked all right too. Grey flannel breeks, Norfolk jacket, a club tie, big woollen scarf of some rowing colours, seemingly, and a decent cap. He was all flushed and panting. ‘Can you fight?’ he gasped, as I got off alongside. I began to think he’d broken out of an asylum. ‘Try me,’ I said, looking for a soft spot to drop my Triumph on. He was breathing so heavily he could hardly speak. ‘No guff, old man,’ he pleaded between his

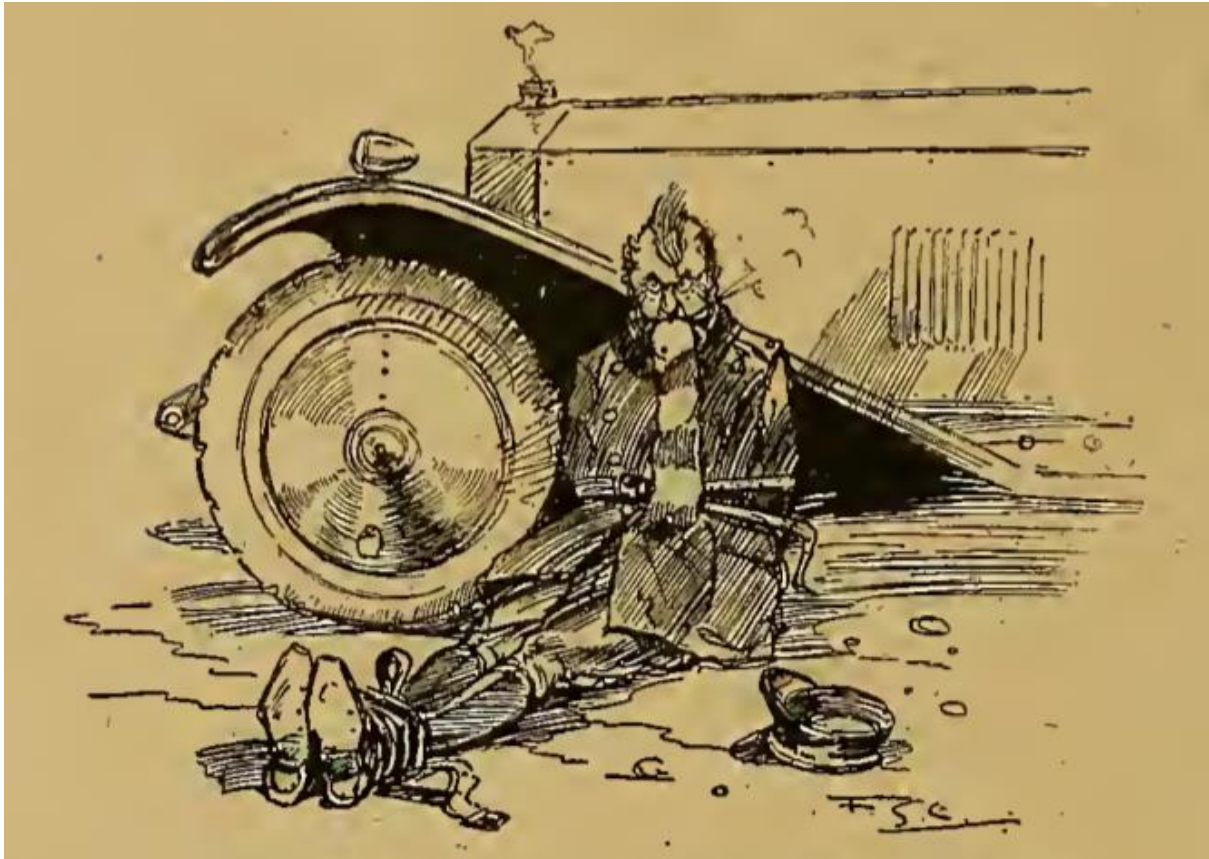
gasps, 'I'm not ragging. Did you see that big car on ahead? That's my governor's Rolls. It's been pinched. Fellow nicked it out of our garage while everybody was at breakfast. I thought it'd be pretty smart to get it back while the police were gassing round doing nothing! So I followed the tyre marks on the road, and here we are. Come along and help.' This was a lark with a vengeance. 'I'm your man,' I said eagerly, 'but my 'bus can't hold yours. Fifty-five's my limit, and you can put a good ten on to that.' His face brightened into one big merry grin when he found I was game. 'That's all right,' he stuttered, still gasping with excitement, 'you're plenty fast enough to hold the Rolls—she's not in extra tune.' We were both in our saddles again, quick as lightning. 'D'you mind if the fellow's armed?' he bellowed, as our engines accelerated with a thunderous roar. 'Not I,' I cried recklessly. So we got our noses down, and we fairly ate up that straight white road. Presently we sighted the grey dust-cloud again. It had picked up a mile or two while we were talking, but the scoundrel wasn't travelling particularly, and we managed to gain on him at a pretty tidy rate. Well, some ten minutes' hard riding put us right on the heels of the Rolls, and rather to my surprise my pal hooted at her (I thought he'd have tried to slip past). The thief in the car drew in to his near side—evidently he hadn't a notion that we were after him. Both of us tore past, and when we got, say, fifty yards ahead, my pal put up the best imitation of a speedman's wobble I've ever seen. Goodness! how he swerved and wobbled! He scared me stiff, I thought he'd be killed. The Rolls man thought so, too, for



...put up the best imitation of a speedsman's wobble I've ever seen. Goodness! how he swerved and wobbled! He scared me stiff, I thought he'd be killed.

he took his foot off the accelerator. I shut my throttle, while the Norton man was apparently fighting to get control, of his 'bus. He slowed her down right enough; but the slower she went, the more she wobbled, and, at last, he crashed off, with the bicycle lying right across the middle of the road. I braked hard, dropped my feet, and pulled up level with him, and the Rolls slid up and came to a stop too. I looked at the thief, and saw by his goggling, astonished eyes that he never suspected us of being on his track. But the instant the Rolls stopped, the Norton man wriggled clear of his fallen machine, and, shouting to me, fairly flew at the Rolls driver. I'm not generally slow, but he'd got the

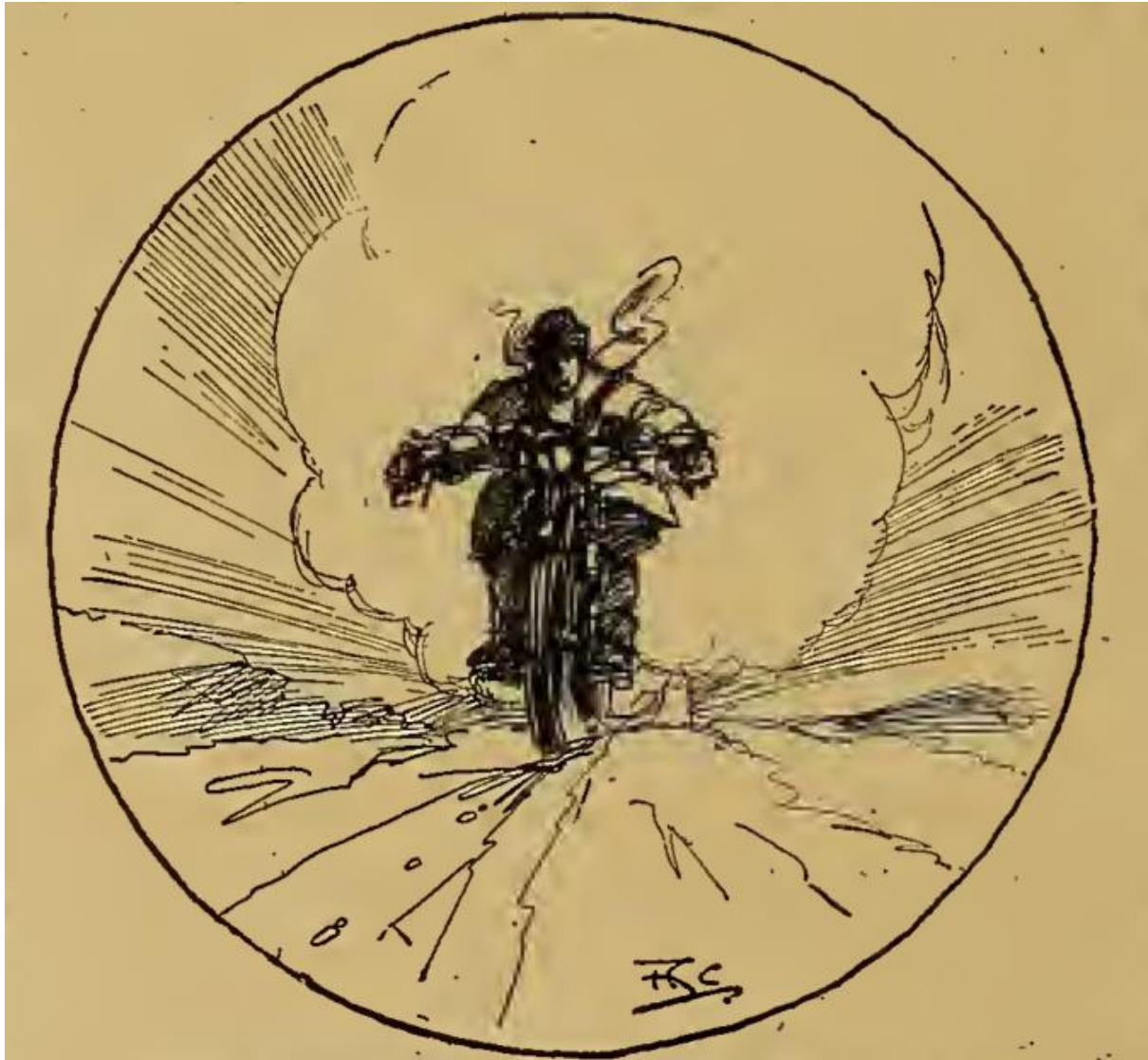
thief half throttled before I'd dropped my Triumph and clambered on board the car. The cute rascal was dressed in a chauffeur's livery to avoid suspicion, too. We had him trussed in no time; the Norton man's scarf came in handy for that, and the straps off the hood did the rest. As his language was beyond all barrack standards, we shoved the end of the scarf in his mouth as a silencer. Then the Norton man and I shook hands and roared with laughter. 'What's the next item?' I asked. 'Take this ruffian on to the next police station, and then hey for a drink!' The Norton man's face fell. 'Well, to be quite frank,' he said,



As his language was beyond all barrack standards, we shoved the end of the scarf in his mouth as a silencer.

in rather a pleasant voice—he'd got his breath back, now, you know—'I'm particularly keen on delivering the goods at home myself. Our local cop is a pestilent fellow—he's had me for furious riding more than once. Look here. What d'you say to coming back to lunch—here's my card. Dad'll be awful pleased to make your acquaintance. We can shove your Triumph in the back of the Rolls, if you care to sample my 'bus.' Dolly rose up in my memory. I told Ashburton—that was the name on the card, Edgar Ashburton, Coldford Hall, Yiewslipe—that I was due at Winchester to request the honour of a lady's hand, but that I'd be charmed to put up with his people the next night. Then we compressed our trussed thief into part of the remaining space, and covered him up with rugs. Then we bade each other a fond farewell. Ashburton made tracks north-east with the Rolls, plus the malefactor and my Triumph. I burbled south-west on Ashburton's

Norton, and found the advertisements are quite OK. The Brooklands model does a pukka 70mph at least, according to the Bonniksen speedometer reading. She ran so charmingly that I forgot all about the drink I had promised myself, and did not stop till



The Brooklands model does a pukka 70mph at least, if Bonnikson speedometers do not lie.

I got a little anxious about petrol. I found a garage, dropped my feet outside, and shouted. Nobody came, and at last I pushed the 'bus inside. A man was speaking at the 'phone inside a little glass office, and I got quite cross before he came out. When the fellow condescended to come and ask what I wanted, he was unconscionably slow about getting it, and I got rather riled. While he was pouring the juice into my tank I started to tell him what I thought of garages which treat motor cyclists as beneath their attention. I'd just got fairly wound up when a heavy hand fell on my shoulder. I looked round and there were two enormous policemen, one on each side. They pinched Ashburton's Norton and they pinched me. Before I knew where I was, I had been charged by an inspector fellow, and was safely locked up for the night in cells, common

drunks, for the use of, one.” “But, good heavens, Blenk!” began the Colonel in astonishment. “The charge, of course,” explained the Doctor, “was stealing one perfectly good Brooklands Norton motor bicycle.” “I don’t quite get you,” objected the Major. The doctor proceeded. “Next morning the charge was extended to include the theft of one perfectly good Rolls-Royce, Edinburgh model, with sporting body. I was hauled out of my cell, and confronted with a pallid, much-bandaged, but wholly irascible individual, whom I instantly recognised as the scoundrelly rascal whom Ashburton and I had sandbagged on the Rolls. It transpired that he was the lawful chauffeur. He was accompanied by—saving your presence, sir—the most choleric, purple-cheeked colonel I have ever seen, to wit, the bereaved owner of the Rolls.” “Then Ashburton...” “enquired the Major intelligently. “Exactly,” murmured the Doctor admiringly. “Ashburton, whose real name was something quite different, was undoubtedly the super motor thief of his generation. He deposited



While he was pouring the juice into my tank I started to tell him what I thought of garages.

the trussed chauffeur in a deep and nettlesome ditch about a mile from the scene of our joint outrage. He then disappeared off the map at high speed. "Of course, you were able to clear yourself?" asked the Colonel. "How could I?" retorted the doctor testily. "I was not convicted of pinching the Rolls, principally because they never found it. But I was caught red-handed with the Norton, and they made no bones at all about giving me twelve months for that." "You didn't serve it?" said the Colonel, incredulously. "I served six and a half months of it," replied the doctor grimly. "By that time immunity had encouraged the ingenious Edgar to get rather too fresh. The impudent fellow actually opened a West End mart to dispose of his stolen cars. They collared him at last in the act of tooling off a Guardsman's 27-80hp Austro-Daimler from the stage door of the Frivolity. When he saw he was in for a good stretch anyhow, he was sport enough to clear me. I went to see him at Pentonville, when I received what the law is pleased to call 'His Majesty's gracious pardon' for a crime I had never committed. He got the DCM in Gallipoli, and went west during the awful November blizzard. Incidentally, it was the middle of January when he cleared me. A man who has spent Christmas in gaol may surely say there are worse places than a troopship, eh?" "By gad, yes!" agreed the Major. The Colonel was elderly enough to prefer romance to adventure. "What about the fairhaired Dolly all this time; you were on the way to interview the obdurate parent when you met Ashburton?" "Dolly!" said the doctor. "Oh, she married Mintshire before they let me out. Mintshire was up at Trinity with me." "Lucky riddance for you," said the Colonel with conviction. "I think the drinks are on me." And he pressed the bell.

BH Davies



To conclude this review of 1919, here's a selection of the adverts that tempted enthusiasts in that first year of peace...



"The Key to the

Open Road."

**Serves
ALL**

Your Needs:

**Fights
ALL**

Your Wrongs.

Subscription - 10/6



Motoring Reconstruction.

Big Results of the A.A.'s "Peace Push."

Immediately the Armistice was signed the Automobile Association settled down to the task of restoring touring conditions to their pre-war standard. As its five hundred civilian soldiers were demobilised they resumed their old positions and helped to train the new blood which replaced those who had fallen in the war.

When one remembers touring conditions during 1915/18 and contrasts the position with that of to-day, the success of the A.A.'s endeavours is easily seen.

THE KHAKI-CLAD A.A. PATROLS are again on all the main roads, directing traffic, undertaking roadside adjustments, obtaining replacements, giving members road information and warning them of highway dangers. "Mechanical First-Aid" Cycles for light repairs to members' cars or motor cycles have been added to the patrol organisation.

ROADSIDE TELEPHONE BOXES have been re-opened, the number of instruments has been increased, and the service is being extended so as to be available to every member at any hour of the day or night.

AGENTS AND REPAIRERS have been appointed on twenty thousand miles of main road in the United Kingdom. In every case an official of the Association inspects the premises and facilities before an appointment is made.

A.A. HOTELS have been re-inspected by a specially trained staff. The hotels have been classified on a "star" basis and the list is constantly being added to and revised.



TOURING FACILITIES are again available and the Association provides all possible assistance to members touring with their cars, light cars or motor cycles in Great Britain and Ireland.

FOREIGN TOURING ASSISTANCE has been augmented so that members are now able to take their cars abroad without having to deposit cash in respect of customs dues.

FREE LEGAL DEFENCE is afforded to every member in any proceedings, arising out of the ownership or use of privately-owned motor vehicles, instituted under the Motor Car Act. This benefit has now been greatly extended and covers Free Legal Representation by the Association's solicitors in civil cases.

Other privileges of A.A. membership include Free Legal Advice, Special Insurance Facilities, Engineering Assistance, etc., etc.

Full particulars of all these benefits are contained in the booklet, "The Key to the Open Road," a copy of which can be obtained post free, from the Secretary, The Automobile Association, 21, Farnham House, Whitcomb Street, London, W.C.2. Send a postcard to-day. Motorists in London who wish to join the Association without delay are invited to call at Headquarters, where a staff of experts is always in attendance ready to give information on any question relating to motoring.





PATROLS and CAR THIEVES.

The A.A. patrol does things outside the province of other guardians of public interests, and the present epidemic of motor car thefts discloses additional evidence of his real utility.

A member loses his car or motor cycle,

either after leaving it standing for a few minutes, or from his private garage during the night. He may notify the police, but his most practical course is to telephone particulars immediately to the nearest A.A. office.

As soon as this information is received by the Association, a full description of the stolen vehicle, i.e., make, horse-power, colour, registered number, and other essential details is telephoned to the A.A. Branch Office and all the A.A. roadside sentry box telephones.

The patrols in charge, in turn, pass the information to all other patrols in their districts, or these men may receive telegrams from A.A. Headquarters.

The hue and cry is raised!

It is one of the ordinary duties of the patrols to record the numbers of all the cars and motor cycles



they see on their beats. It is, therefore, practically impossible for a stolen vehicle to be used on a road patrolled by the A.A. during daylight, without leaving clues concerning its whereabouts.

Cases are on record where the watchfulness of the patrols has resulted in a ring fence being drawn round the thief, and he has been driven to

abandon the car on the road,

with an empty fuel tank, for, in addition to tracking the thief, the patrols pass their information to garages, thereby rendering it difficult for the thief to obtain petrol or other supplies.

When the car is seen, "necessary action" is taken for bringing it to a standstill. If such action is unsuccessful, the patrols use the wires running between the A.A. roadside telephones, and the

thief's progress is ultimately arrested,

unless he leaves the main road.

A.A. patrols are the "special police" of British motoring. While motor car thefts are rampant, the wise motorist will join the Automobile Association, and become entitled to their services in this connection, and benefit by the thousand and one other unique services afforded by membership of the A.A.



Every motorist who desires information as to the other privileges enjoyed by the members of the Automobile Association should read the booklet, "The Key to the Open Road," a copy of which can be obtained from the Secretary, A.A. & M.U., 21, Farnham House, Whitcomb Street, London, W.C.2.

DESIGN TELLS

Result of the York and District M.C.C.'s Hill Climb at Sutton Bank.
THE NEW 3 H.P.



made the
FASTEST TIME
IN THE 500 c.c. CLASS.
FASTEST TIME
IN THE 750 c.c. CLASS

"The Motor Cycle" says—
"His 1,000 c.c. average
speed was 39.4 m.p.h.,
that of Emerson on a
machine of less than half
the capacity, being 37
m.p.h."

"Motor Cycling" says—
"His machine appeared
to be capable of tremend-
ous acceleration, the ex-
haust making a smooth
even note resembling
an aero engine."

AND
SECOND FASTEST TIME
IN THE 1,000 c.c. CLASS
(Beaten by 5 seconds only).

LOOK!

3 h.p. A.B.C.	1 min. 27½ seconds
7-9 h.p. "	45½ "
3½ h.p. "	50½ "
4 h.p. "	57½ "
6 h.p. "	3½ "
5 h.p. "	37 "

Do the words "Horse-Power" convey anything to you?

PRICE

£85

THE
Sopwith
AVIATION & ENGINEERING CO. LTD

65, South Molton Street, LONDON, W.1.

Telephones

Mayfair 5803-4-5

Telegram

"Efficacy, Phon. London."

Registered Offices and Works:
KINGSTON - ON - THAMES.

What the AUTO-CYCLE UNION'S

THE Auto-Cycle Union's Six Days Trial is an event of vital importance to every motor cyclist and prospective rider. It is not a race, but is a recognised Reliability Test by means of which the general efficiency of motor cycles and cycle cars at present on sale to the public, is determined.

ANY machine which comes through the Six Days successfully is, without doubt, a sound and reliable production; those which gain premier awards are certainly good investments to the potential purchaser. The trade and public alike have confidence in the classic A.C.U. Trial, knowing that is the great opportunity for design and construction to prove their worth. Weakness of any form in machines or accessories is bound to be revealed in this Trial.

THE Auto-Cycle Union, as the controlling body for motor cycling competitions, organises the Six Days Trial; making all the regulations, selecting the route, and determining the awards. The Trial has been held annually (with the exception of the War period) since 1903, and has done more than can be calculated to improve the Motor Cycle, and to make motor cycling safe, enjoyable, and economical for everyone.

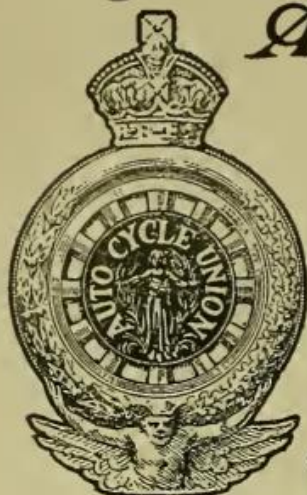
YEAR by year new tests and more stringent regulations have been imposed, and the gradual elimination of weaknesses and limitations in every class of machine is practical proof of the value of the Trial.

TO-DAY, with the great revival and extension of motor cycling that Peace has brought, there is more need for the A.C.U. Six Days Trial than ever. The motor cycle is still capable of much improvement. The new tests imposed in this year's Trial indicate the directions in which the Union is assisting the trade to improve the machines that will be offered to the public next Season.

IF you would like to know more of the institution which safeguards and advances all your motor cycling interests write to:—

THE SECRETARY,
AUTO-CYCLE UNION,
83, Pall Mall, LONDON, S.W. 1.

At your service ALWAYS!



The R.A.C. Road Guides are at the service of every member of the Auto-Cycle Union at all times and will gladly render intelligent assistance if you are unfortunate enough to be stopped on the roadside. In case of either breakdown or accident you can obtain a relief car to take you and your passenger home or to the nearest railway station **AT THE EXPENSE OF THE A.C.U.**

This is but one of the many benefits offered by the A.C.U. to its members for an annual subscription of 10/-. An A.C.U. member is also entitled to **FREE** legal advice and defence on all matters motorecycling, **FREE** use of a reading-room at the R.A.C. **FREE** assistance in touring and foreign travel, Special Insurance Facilities, etc.

If you are not already a member of the A.C.U. it is in your direct interest to join without delay. The annual subscription is 10/- from date of joining. Why not post the coupon below for full details **TO-DAY?**

Information Coupon

The Secretary,
AUTO-CYCLE UNION,
PALL MALL, LONDON,
S.W.1.

Please send me further particulars regarding the advantages of becoming a member of the A.C.U., together with Application Form for membership.

TRADE MARK

KING DICK

ABINGDON

KING DICK

MOTOR CYCLES
ENGINES

Orders dealt with as Government requirements permit.

**Abingdon-Ecco, Ltd.,
Tyseley, Birmingham.**

London: G. H. Smith, 12, Mortimer Street, W.1.

GUTHRIE

B.S.A.

Popularity

and why—

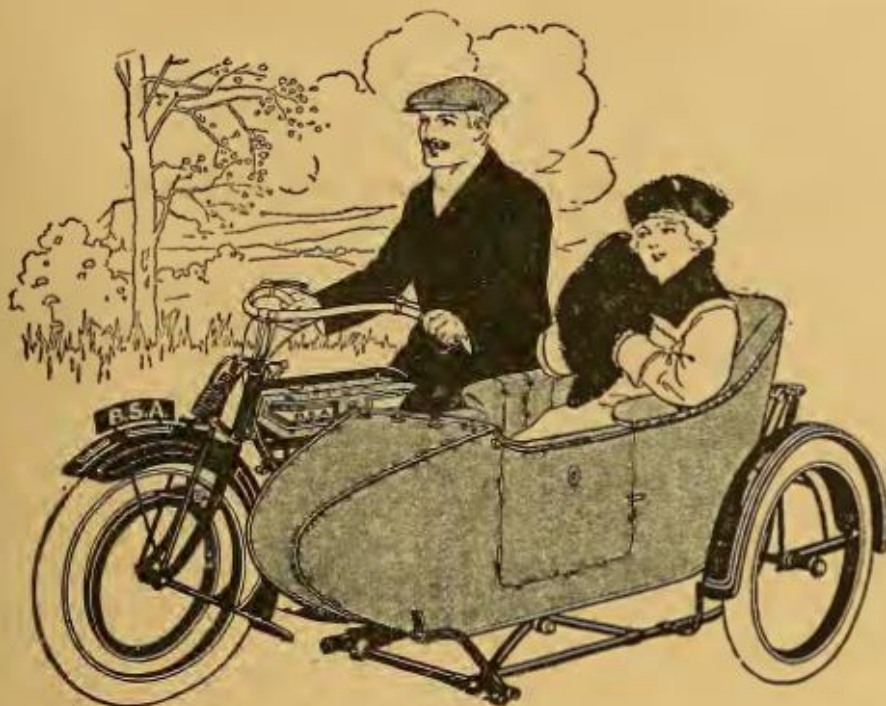
B.S.A. CATALOGUE
FREE ON REQUEST

GUARANTEED INTERCHANGEABILITY.

No feature of B.S.A. Motor Bicycles is better known, and certainly none is more deservedly popular, than that of B.S.A. Interchangeability. First adopted many years ago in the manufacture of army rifles, interchangeability was soon rigidly enforced in all B.S.A. Productions. Every part is gauged at each stage of manufacture, and in the event of the detection of even so slight a variation as a thousandth of an inch the part is at once rejected. The advantages accruing from the guaranteed interchangeability of every B.S.A. Part are overwhelming, not the least important being that, in case of loss or damage, any replacement parts that may be necessary are certain to be exact duplicates.



THE BIRMINGHAM SMALL ARMS COMPANY LTD.,
Small Heath, BIRMINGHAM.



*Write for
Catalogue.*

Winter Riding.

THE keen enjoyment of motor cycling with a B.S.A. on a winter's day is without equal. The hard roads, winter air, and the comfort and easy running of the reliable B.S.A. all make for thorough enjoyment. The sturdy construction of B.S.A. Motor Bicycles and the searching tests to which each individual machine is subjected before finally leaving the B.S.A. factory is a guarantee of the satisfactory service that can be confidently anticipated from

B.S.A.

MOTOR BICYCLES

For Solo and Sidecar.

B.S.A. CYCLES LIMITED, BIRMINGHAM.

Proprietors : The Birmingham Small Arms Company, Limited.


WAKEFIELD

Castrol

MOTOR OIL

Ask for Castrol "C"

C. C. WAKEFIELD & CO., LTD.,
Wakefield House, Cheapside, London, E.C.2.




Your Motor-cycle —and Dunhills

Some Dunhill Motorities.

Goggles, Lamps, Oilskins, Leggings, Motor Clothing, Wind Screens, Generators, Grids, Sidelamps, Horns and Whistles, Speed Indicators, Voltmeters, Accumulators, Batteries, Lodge Hous, etc. Valves, Tool Kits, Re- air Kits, Soldering Outfits, Motor Oils, Belts, etc. Vulcanisers, Etc., Etc.

It is all very well to picture that whirl through the countryside as one long spell of unbroken pleasure, but it is more practical to reflect on the possibilities of mishap and to anticipate the troubles that may arise. It is still more practical to arm yourself with all those "Motorities" which add to the joy and enable you to deal promptly and effectively with "troubles." It is not good to find yourself in difficulty just as the shades of night are falling and you at a spot "miles from anywhere." Be a "road-wise" motorist and equip yourself fully and efficiently at Dunhills.

Write, call or 'phone for the booklet "Dunhill's Motorities for Motor Cyclists"—there's nothing you need it doesn't contain.

Dunhill's

LIMITED.

LONDON—359-361, Euston Road, N.W.1
Telephones—3405 and 3-06 North.

GLASGOW—72, St. Vincent Street.
Telephone—7649 Central.

WAUCHOPE'S

FAMED FOR THE BEST
SELECTION OF THE BEST,
Most Satisfactory House for
Bargain seekers. OFFER
UNIQUE ADVANTAGES TO OFFICERS IN
MOTOR CYCLE OUTFITS OR LIGHT CARS FOR LIMITED
PERIODS FOR LEAVE.

Call and see Britain's biggest stock, finest bargains, newest models, best makes, unequalled variety. Cash, easy terms, or exchange for all buyers. Full guarantee. Instant delivery.

HERE ARE A FEW SPECIMEN BIG VALUES:

3 1916 twin James, 3-speed and clutch	£52 10	7-9 1916 Excelsior	£15 0
4 1914 Zenith	£35 0	4 Grandex	£20 0
3 1910 Enfield, 2-speed ...	£52 10	3 1914 Rover, 3-speed ...	£45 0
4 1915 B.S.A. & C.B. S-car	£75 0	4 1920 B.S.A., chain-cum- belt, new	£78 10
7-9 1915 Indian and Scar, electric lighting	£35 0	4 T.T. Triumph, single-sp.	£40 0
5-6 1914 A.J.S., solo	£57 10	6 1916 Royal Enfield and Sidecar, dyn. lighting.	£94 10
3 1914 A.B.C. engine	£35 0	4 1915 Norton, single-speed	£40 0
4 1914 Royal Enfield, 2-sp.	30 gns.	7-9 1916 Powerplus Indian and Sidecar, 3-speed ...	£80 0
6 1910 Enfield Combination	£87 15	6 1910 Enfield Combination	£85 0
10-12 1914 Singer, 4-cyl. ...	£165 0	4 1915 New Imperial-Jap, 2-speed	£35 0
4 1915 Triumph, 3 speeds ...	£85 0	3 Scott and Sidecar	£37 10
4 1919 B.S.A., 3 speeds ...	£79 10		

WAUCHOPE'S, 9, Shoe Lane, Fleet St., LONDON, E.C.

Wires: "Opifcer, London." 'Phone: 5171 Holborn.

MILLFORD

SIDE CARS

MILLS - FULFORD,
LTD., COVENTRY.

QUALITY & COMFORT THE ORIGINAL
SIDECAR MAKERS

XL-ALL

ABSOLUTELY
THE BEST
MOTOR SADDLE
EVER MADE—
BAR NONE.



Works:
Hall Green,
Birmingham.



THE
Apollo
Ensures Maximum Power.
THE APOLLO MFG CO
APOLLO WORKS
BIRMINGHAM.




Our Friends at home and afar we extend Greetings. May the NEW YEAR give us the return of our absent ones and the freedom of the open road.

Douglas

DOUGLAS MOTORS LTD.
BINGHAMWOOD, BRISTOL.





AVON
TYRES

"As good tyres as can be made!"

DIAMOND

THE RELIABLE MACHINES.



MOTORS.

We are now commencing the manufacture of the following models:

- 2½ h.p. two-stroke, single-speed machine (Villiers engine).
- 2½ h.p. two-stroke, two-speed machine (Villiers engine).
- 2½ h.p. four-stroke, two-speed machine (J.A.P. engine. Enfield gear).

Book your order now for early delivery.

THE D. F. & M. ENGINEERING CO., LTD.,
VANE STREET, WOLVERHAMPTON.

Telegrams: Diamond. Telephone: 654. A.B.C. Code, 8th Edition, used.

ALBION

GEARS FOR

LIGHTWEIGHTS.

ALBION ENGINEERING CO., LTD.,
Upper Highgate St., BIRMINGHAM.

The Ivy Motor Cycle

has made its name
—among the riding public its
operation is unequalled. To-day it is adding to
that reputation in a greater class, and—to ensure
it will be an even better cycle for this experience.
Do not forget us—that you should not. It is
the purpose of this advertisement.

S. A. NEWMAN Ltd
Manufacturer

49 Lichfield Rd
Birmingham.

TELEGRAPHIC ADDRESS:
"COPWASH"
BIRMINGHAM

TELEPHONE:-
CENTRAL 1467

The COPPER & ASBESTOS WASHER CO

COPPER & ASBESTOS WASHERS ALL SHAPES & SIZES
FOR MOTOR CAR, AEROPLANE, OIL & PETROL ENGINES
111 & 112, LIVERY STREET, BIRMINGHAM.

The advertisement features a variety of engine components. At the top, there are two oval illustrations: one of an airplane on the left and one of a ship on the right. Below the airplane is a small rectangular gasket. In the center, there are two large, complex gaskets for multi-cylinder engines. Below these are two circular gaskets, each featuring an illustration of a vintage car. At the bottom, there is a row of several smaller gaskets and washers of different shapes, including circular, oval, and irregular forms.



INDIAN

LEVIS

BLACKBURN

SCOTT

A.B.C.

A GOOD HAND
HELD BY

GODFREY'S LTD

208 GT PORTLAND STREET,
LONDON W.1.

*'Phone 7091 MAYNARD
2 LINES*

WORTH WAITING FOR.



The Words of Godfrey's

THE AGENTS OF LON,

Concerning Deposits

(Another Chapter not to be found in the book of Artemas.)

NOW of all the laws of the land of En, none was more profitable to those agents whose ways were devious than the law of the essence of contract.

For it could be so wangled that the agent got the essence and the buyer the burden of the contract.

And the manner of the wangle was this: they would entice the public with smooth words, saying, "Lo, we can deliver to thee the machine thy soul desireth." And for some would they fix a date, and for others promise early deliveries.

And they did take deposits with orders.

Now, seeing the men who rode on wheels were sports and knew not the law, they did pay gladly, without stipulation.

Then, peradventure, the time would come that one of the men who had wasted his substance, or was tired of waiting for that which was always promised but never arrived, would seek to cancel his order.

Now, the righteous agent would straightway return the deposit—saying, "Friend, here is thy money which thou entrusteth to my care."

But, if otherwise, the agent would verily wangle the deposit to his own profit.

Take heed, and hearken unto the voice of Godfrey's, for it is in the reputation of a house that lyeth thy safety.

IN placing orders with GODFREY'S (or, in fact, with any Agent of repute), the Customer need have no fear concerning Deposits. GODFREY'S invariable rule is to return them in full should delivery not be required. But in view of the very illuminating answer to a "Legal Query—Essence of Contract," in a recent issue of "The Motor Cycle," it behoves the customer to select his agent with some discrimination.

Write for Godfrey's Full List of New Machines for which they can accept orders.

GODFREY'S REQUIREMENTS YOUR OPPORTUNITY.

Best Prices paid for Modern Second-hand Machines. Send full particulars and our representative will call at your convenience.

Sole Distributors. London and Home Counties for A.B.C., BLACKBURNE, and INDIAN Motor Cycles.

SELLING AGENTS FOR ALL THE BEST MAKES.

Everyone wants Peace and MOTOR CYCLES.

The desire for an early peace is great—but the demand for immediate deliveries of motor cycles can best be described as frantic.

Everyone wants his machine at once, and Manufacturers and Agents are inundated with orders which it will take months to execute.

To advertise machines as being in stock is ironical, because they are snapped up long before the advertisement can appear—at least, that is Godfrey's experience.

To make definite promises of delivery is asking for trouble as, owing to causes entirely beyond their control, manufacturers are more often than not unable to keep their promises to the agents.

All we can say is that, as Sole Distributing Agents (London and Home Counties) for

A.B.C., ELACKBURNE, INDIAN and SCOTT Motor Cycles

we can give the most favourable deliveries of these models, and as large Contractors for all other well-known makes we are receiving a good share of the present limited supplies.

We are not refusing Orders, but we feel it is only right to frankly explain our position. Your order—if you decide to place one—will be executed in strict rotation and as early as possible, but we can make no definite promise as to delivery. Any machine available goes to the first name on the list at the fixed retail price, and no offer of a premium to secure priority is ever entertained by Godfreys.

We are keenly alive to the fact that upon the custom and goodwill of our numerous friends depend the success of our business. We have not the slightest wish to take up an independent attitude, and every desire to accept and execute any and every order; but it is not fair to the Customer, and not fair to ourselves to make promises which cannot be carried out.

Later on (in a very few months we hope), when machines are coming through regularly and in ever-increasing numbers, we shall be able to satisfy all our Customers. In the meantime, we can only express our regret that the supply of machines is not equal to the present demand.

GODFREY'S LTD.,

WE KNOW

THAT by merely promising deliveries of new machines we could keep a clerk all day and every day booking orders.

THAT we could take any number of deposits and see our Bank Balance (like the fat boy in *Pickwick Papers*) "swell visibly."

THAT by buying second-hand machines indiscriminately at fancy prices we could, without any trouble, re-sell at still higher prices.

THAT we could easily obtain premiums for preferential deliveries of new machines.

THAT in fact at the present time:—

*There is unlimited capital (by way of deposits) for the asking.
Unlimited opportunities for making big profits.*

BUT as we have no intention of sacrificing our reputation—acquired by ten years' honourable trading—for one year's orgy of Boom Profits:—

We make no definite promises as regards delivery of new machines.

We persist in our rule only to sell second-hand machines as and when they pass through our workshops—where they are completely dismantled and thoroughly overhauled.

We continue our policy to supply new machines in strict rotation at catalogue prices.

AND——we are sanguine enough to think that in 1929 GODFREY'S LTD. will still flourish and be more firmly established than ever in the confidence of the motor cycling public.

WE can foresee a lot of trouble in the near future and a plethora of disillusioned and dissatisfied customers. We do not want a single one to associate GODFREY'S with his disappointment.

WE want GODFREY'S promise to be something which the whole motoring world will accept without question simply because it is GODFREY'S.

WE don't want to refuse orders. We are anxious enough to make our already large business larger still, but we want no business which is not satisfactory to the customer, and think it only fair to state we can only accept orders at present for strictly rotational delivery.

GODFREY'S LTD., 208, Gt. Portland St.,
LONDON, W.1.

Phone: 7091 Mayfair (2 lines).

We are open to purchase for cash modern second-hand motor cycles and combinations.
Send full particulars and our representative will call at your convenience.



MAKE A CLEAN START

By Purchasing your Peace Year's Mount
from the firm whose name alone
is a Guarantee of a Straight Finish.

Write for Godfrey's Full List of New 1919
Models, giving Latest Prices and Earliest
Deliveries. Or, if you have already made your
choice of a machine, place your order now.

YOUR OLD MACHINE TAKEN IN PART EXCHANGE.

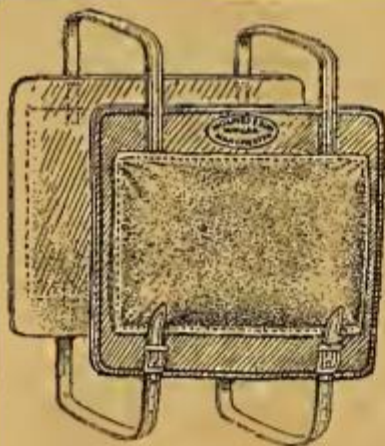
EASY TERMS OF PAYMENT ARRANGED IF DESIRED.

Write for Catalogues or any Further Information Required to

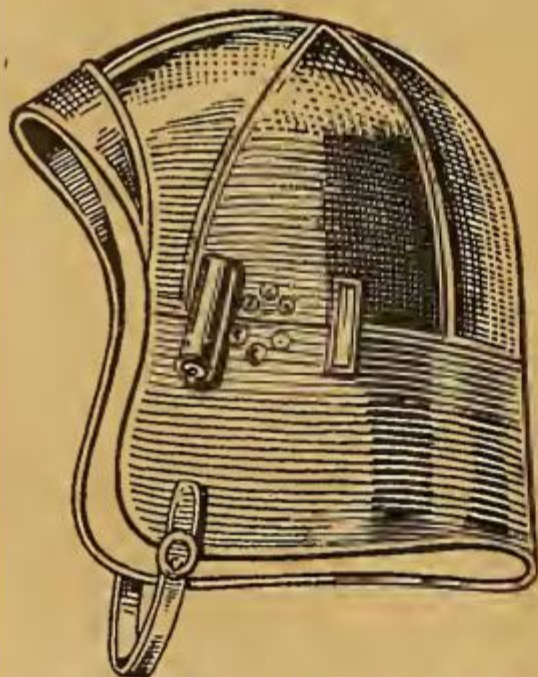
GODFREY'S, L^{TD.},
208, GREAT PORTLAND STREET,
LONDON, W.1.

Telegrams: Semloh.
Telephone: City 4432.

MOTOR HOLMES GOODS



Knee Grips for Winter Riding.
Our A.1 Quality made of
Selected Hides. Measuring
Overall, length 7in. by 6½in.
deep. Pad 6in. by 4in. Suit-
able for Triumph, Norton, and
machines with similar tanks.
Price 12/6 per pair.



MOTOR CYCLIST'S HELMET.

Invaluable for cold
weather riding. Keeps
the ears and head free
from draughts. Made
from selected soft skins,
lined wool, and fitted
with Ear Rolls and
Goggle Slides as illus-
trated. **Price 21/-.**

Made in dark khaki
green colour only.

For complete protection
we still supply the
Famous "All Weather"
Motor Suit at **£4.**

Particulars on Request

Ask your Agent for
above or write actual
Manufacturers,

HOLMES & SON, 38, Albert St., MANCHESTER.



One Mile,
5 Miles,
10 Miles,
25 Miles, and
25 Miles
Sidecar
Championships.

FIVE
American National Championships
iron on

Indian
Motocycles

The 25 Miles Sidecar Championship was won in the wonderful time of

20 minutes 36½ seconds,
being an average speed of
72·8 miles per hour,

whilst the 10 Miles Solo was won
at a speed of

94.74 miles per hour.

Exhibiting at Olympia
STAND—93



that did it.

HENDEE MANUFACTURING CO.,
"Indian House," 364-368, Euron Road, London, N.W.
Telephone-HAMPS 104. Branches—Bristol, Exeter, London, S.W.
AUSTRALIA—189-113, Russell St., Melbourne. **AFRICA**—
Indian House, 127-9, Commissioner Street, Johannesburg.
Indian House, 575, West Street, Durban. Indian House,
Strand Street, Port Elizabeth.

PLEASE REFER TO "MOTOR CYCLING" WHEN CORRESPONDING WITH ADVERTISERS.

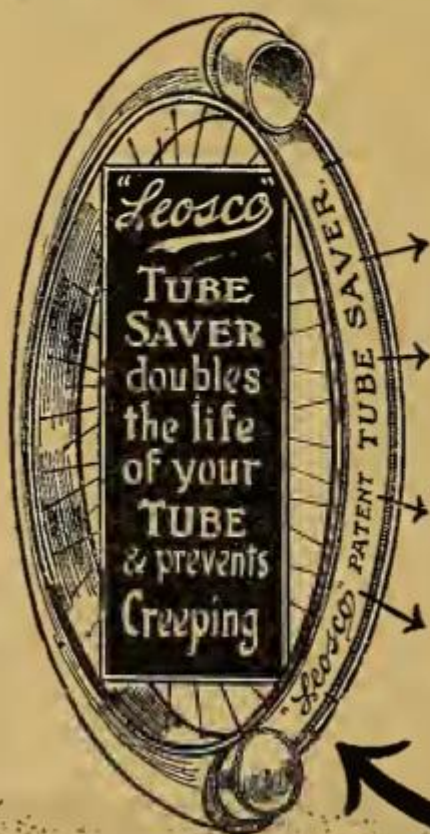
C43

LEO-SCO

TUBE SAVER

"The One & Only"

Just the weather
for
**LEO-SCO patent
TUBE SAVERS.**



NEVER were Leo-sco Tube Savers as valuable as now, the season of wet, sloshy roads, the season of dampness, the maker of rust which eats inner tubes. The Leo-sco Patent Tube Saver prevents the inner tube of the tyre coming into contact with rusty rims, and, in the case of wire wheels, with spoke heads. It saves the tube from danger and destruction. It assists to hold the cover in its place, eliminates creeping and does away with security bolts.

Obtainable from all Agents, Factors, or direct from the sole Manufacturers and Patentees.

Price 5/- each. Postage 4d.

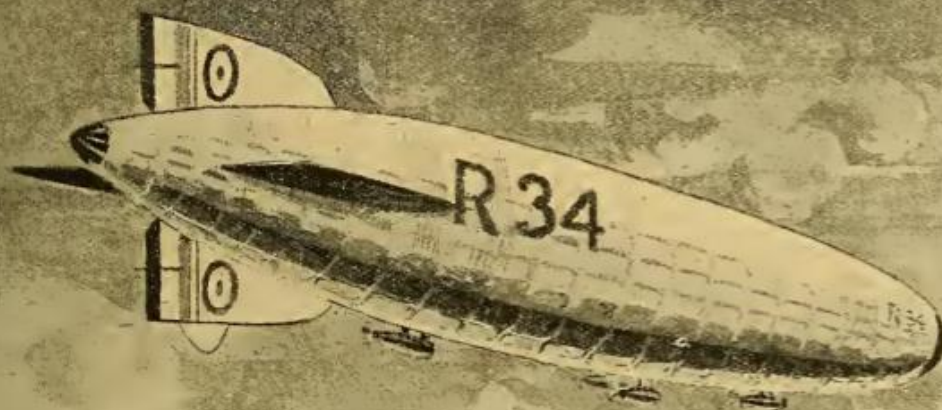
LEO SWAIN & CO.,

237-9, Deansgate, MANCHESTER

Works & Garage: St. John St.

Telephone:
City
5180-1.

Telegrams:
"Immaculate,
Manchester."



Started by Lucas.

All the Sunbeam-Coatalen 275 H.P. Engines of the R34—the first airship to cross the Atlantic—are fitted with LUCAS ELECTRIC ENGINE STARTERS.

*Famed for their high efficiency
and unvarying reliability.*

Designed and Manufactured by

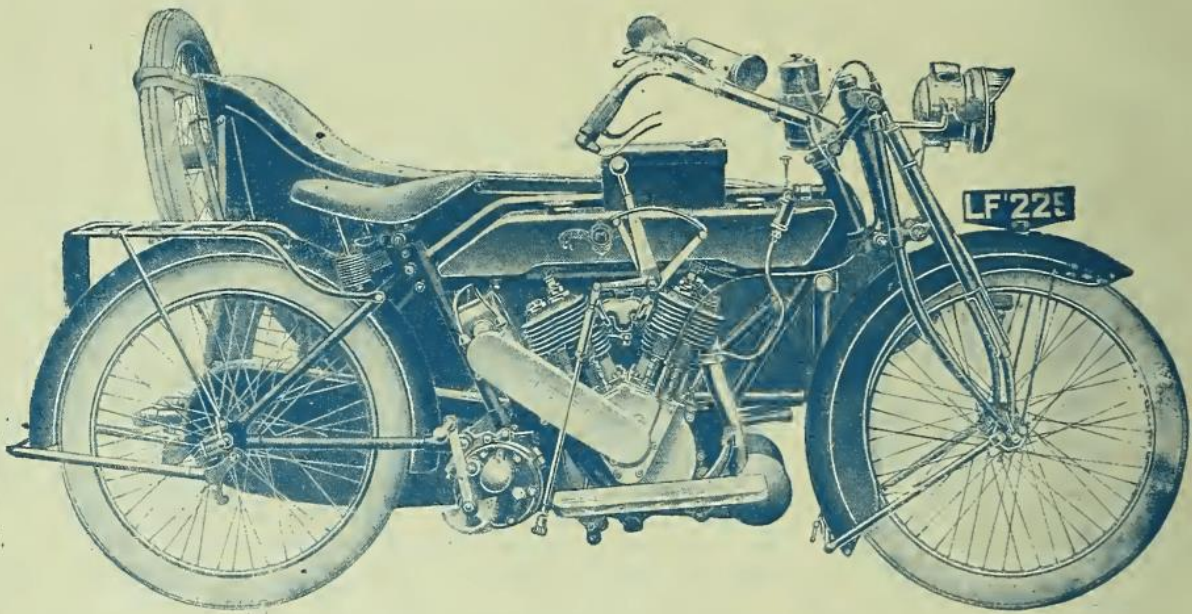
Joseph Lucas Ltd., Electrical Engineers, **Birmingham**
Pioneers of Electric Power on Aircraft.

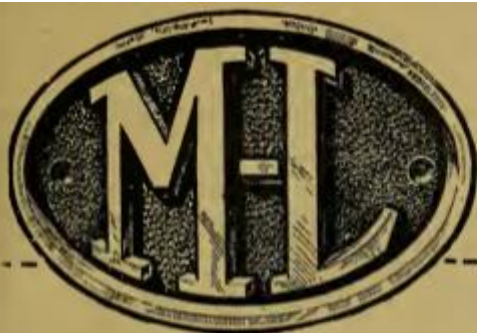
LUCAS

See that your new motor cycle is
equipped electrically by LUCAS.

THE
VICTORY MODEL

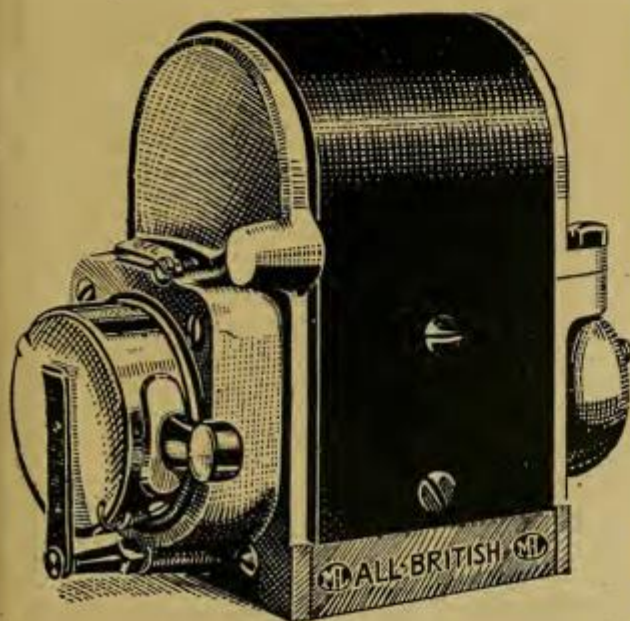
Matchless
THE PERFECT PASSENGER MOTORCYCLE





More than

60,000



M-L Magnetos have been supplied to Government Departments during the past three years — They have recently been made at the rate of over 800 per week.

M-L Magnetos have satisfied the most searching tests of Government experts, and have made a reputation for efficiency and reliability under the most stringent conditions. Quality Tells.

We shall shortly be in a position to begin regular deliveries of a complete range of M-L Magnetos for Motor Cycles from the lightest to the heaviest, and for any combination of cylinders.

The
M-L Magneto Synd., Ltd.,
Coventry.

SIDECARS FOR WAR.

We received our first Government order in Sept., 1914. Since when we have been constantly employed on increasing quantities.

Our Mr. W. J. Montgomery has been on Active Service in the fighting area in France since April, 1915, and has had Sidecars under his supervision during the whole of the time.

Light, Sound,
Mechanically
Correct. 17 years'
experience in
Sidecar production

MONTGOMERY
Doubles your pleasure.

NO INFLATED
prices, but good
honest value.

SIDECARS FOR PEACE

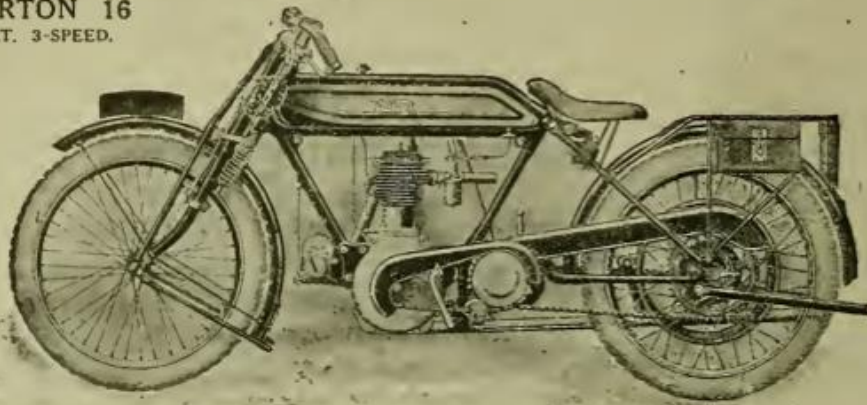
Our 1919 designs are based on experience gained under these most searching conditions, and we can promise Comfort, Smart Appearance, and Freedom from Trouble. Get in touch with your agent, or write us at once if you want excellent value, reasonable price, and assured delivery.

W. MONTGOMERY & CO., The Pioneer Firm, COVENTRY.

Well-known Motor Cycle Company is desirous of placing large contracts, for the manufacture of Engines and Gear Boxes, in the hands of a substantial firm capable of dealing with this work in bulk, and turning out a really sound Engineering job.

Firms interested should first address Box L9323, "The Motor Cycle."

NORTON 16
T.T. 3-SPEED.



The unapproachable Norton.

THE exhilaration of great speed ;
the comfort of ample strength ;
the certainty of complete reliability ;
the pride of a fine possession —
all this is the lot of the man who's
lucky enough to own a Norton.

Norton

NORTON MOTORS, LTD.,
PHILLIPS STREET, ASTON, BIRMINGHAM.
London Agents: G. B. BARTLETT & Co., 74, Gt. Portland St.



SPEED

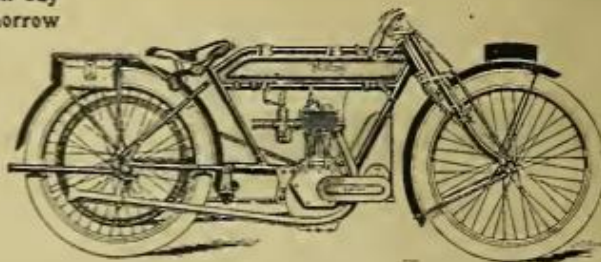
The exhilaration of movement—rapid, smooth and long-sustained: that confidence sound workmanship alone entitles you to put in your mount; the miles fly by joyously, your whole enjoyment is unspoilt by trouble of any sort—for you're on a Norton. And it's day in and day out with the Norton. Each day a Norton is as good a friend as the last, and to-morrow you'll find her just as eager and just as true.

Norton Motors Ltd

PHILLIPS STREET, ASTON,
BIRMINGHAM.

London Agents:

BARTLETT & COMPANY,
GT. PORTLAND STREET.



Is Your Name Here?

WAITING LIST

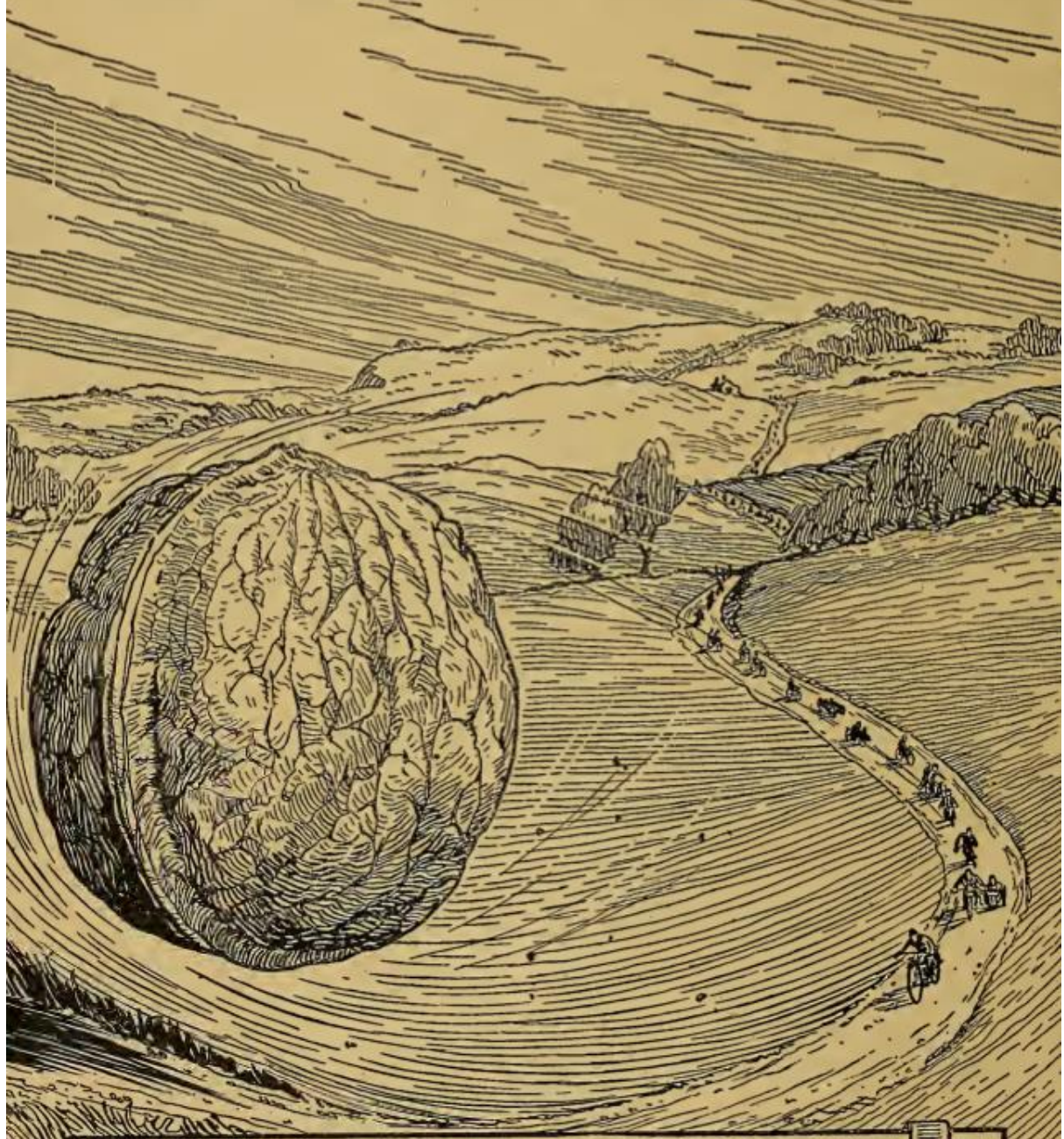
There's still space for it—still
room for those who don't
intend to wait *indefinitely* for
their post-war N.U.T.

There'll be a *limit* to our output
—as large as it will be—and as
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rotational execution of our
orders, the *only safe*
course to adopt is to put
your name upon our wait-
ing list to-day.

The Newcastle-upon-Tyne Motor Co., Ltd.,
South Benwell, Newcastle-upon-Tyne.

N.U.T.

STILL AFTER THE SECRET!



THE NEWCASTLE-UPON-TYNE MOTOR CO., Ltd.

St. Thomas' Street, NEWCASTLE-UPON-TYNE.





In ordering, please state colours needed, give jacket length and inside leg measure, and enclose remittance.

BEACON OILSKINS

NEVER GO STICKY OR LET IN WET.

Money back in full if they fail on any point.

Authorities in every branch of Sport praise Beacon Oilskins. "Lion," of "The Motor Cycle," says they are the only things which have kept him dry; "Kuklos," of "The Daily News and Leader," never rides without them; and they will give you the same sure freedom from Weather Worries, though you ride all day against the cutting wind-driven Rain and Sleet.

Jacket & Seated Trousers Overallssom-
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In Grey-Green .. 56/6
Postage Free U.K.; abroad extra.
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Prices given are for Jacket length
33in. For 35in. and 39in. please add
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inside leg, and up to 40in. Waist.

Send a postcard for Illustrated Catalogue to—
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OVERALLS for Motor Cyclists

DIRECT FROM THE "ALL-BRITISH" WORKS.

HERE is an opportunity for Motor Cyclists, Mechanics, and others to obtain Overallss direct from the "All-British" Works, Northampton, at Bargain Prices. These Overallss are cut so as to give



perfect freedom of movement, and every garment is fully guaranteed except against Carbonization. The prices are such as to provide a splendid and serviceable garment at a generous money-saving price. See details below. Send your order to-day, stating article required, and chest and inside leg measurement, and the garment comes to you by return. If you are for any reason dissatisfied, return it to us within four days, and we will refund your money immediately. You risk nothing and we guarantee to satisfy you.

To Works Managers and Others—Special quotations given for large quantities for workpeople. Write for particulars.

	Trousers 11th Overallss	Jackets	Combination Suits
In Blue Dongaree	9/3	10/3	10/-
In Brown Denim	8/11	9/11	9/6
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Carriage Paid to your Door

Illustrated Booklet Free on receipt of Postcard.

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54, "ALL-BRITISH" WORKS, NORTHAMPTON.



THE

"SPEEDS"
THE DASH
BACK TO H.D.Q.

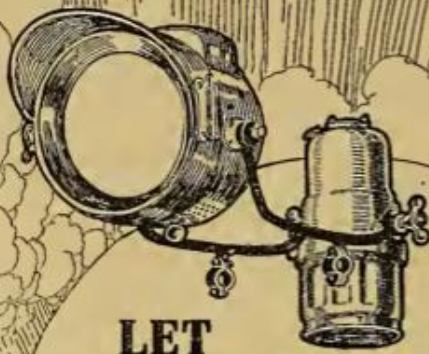
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Cycle
ELECTRIC
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on your
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will be

"IT"

PH
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POWELL & HANMER
BIRMINGHAM





**LET THE
SUNSET REMIND YOU—**

That you *must* fit this **P. & H. Model**
for safety and efficiency during the
dark hours to follow.

No. 127. H.B. PRICE 67/-

P & H
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POWELL & HANMER LTD
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Right from the Start.

P. & M. design was right from the start. Its principles of construction are the same to-day as in 1900. Detail refinements are the only additions.

The high value placed upon the P. & M. is due to this consistency of design through eighteen years, and emphasised by the fact that owners consider nine and ten year-old P. & M.'s the equal of new models of other makes.

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"My machine, although a 1910 model, still runs perfectly, and, after two years, storage, started at first effort. The machine has covered many thousands of miles and is still good for many more. In fact, in spite of its age, I consider it quite as up-to-date as many so-called new models of other makes."

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INCORPORATED BY
ACT 1908 AND 1910

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Asphalt and wood—tram-
lines and stone sets—
Palmers accommodate them-
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conditions of traffic driving,
whether the roads be bone-
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No need to dodge grease
patches or "pot-holes" on
Palmers—they are the
safest tyres on the road.

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THE PALMER TYRE, LTD.,
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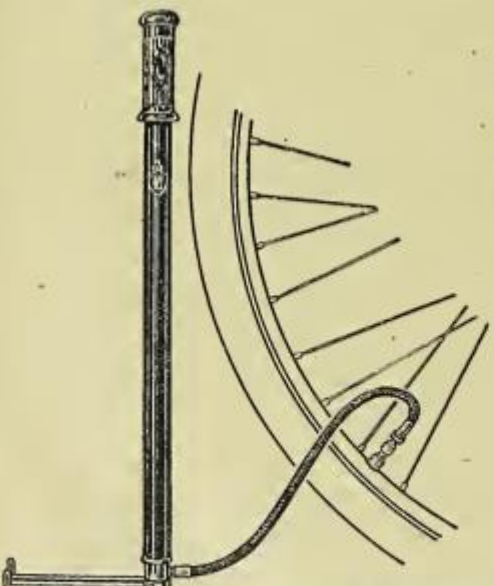
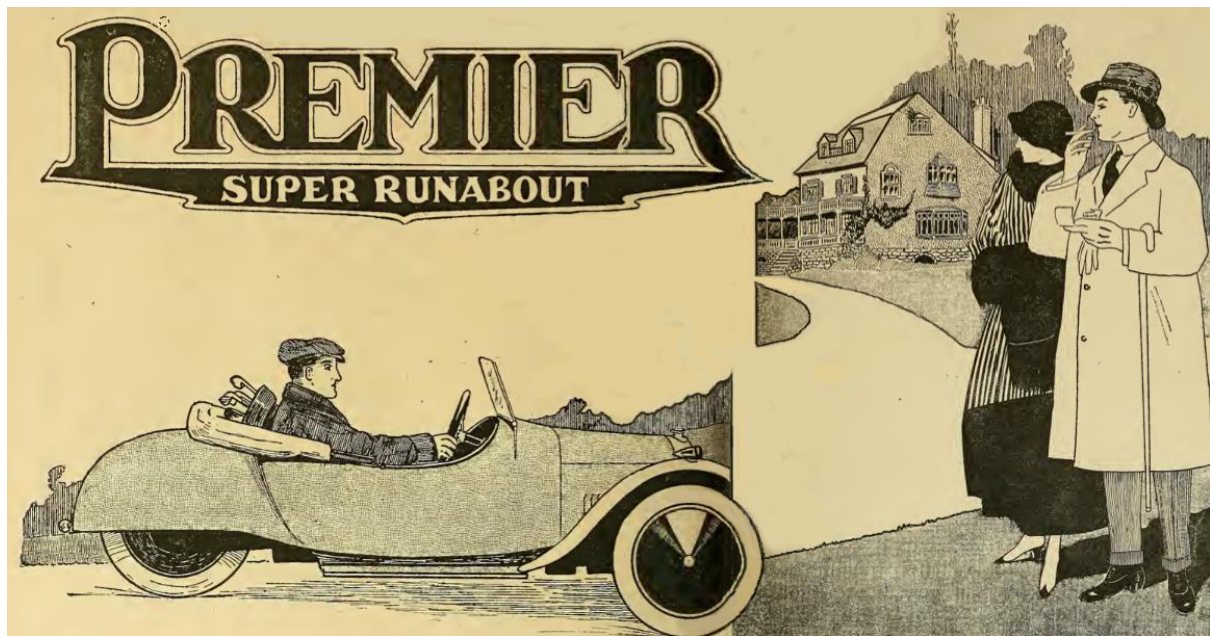
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USE Pedley Motor Cycle Tyres,
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**PEDLEY is the Rule
on every Road.**




Bluemels

“Motobike” Pump

fulfils its particular function faithfully and well, so, when buying, look for the famous Bluemel Trade Mark—a B and feather. It is a guarantee of quality and faithful service.

**BLUEMEL BROS., LIMITED,
WOLSTON, - - Nr. COVENTRY.**





T. W. Loughborough, A.M.I.A.E.,
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Are You Insured?

The mishaps that may overtake the most careful of motorists are numerous. It behoves every rider to insure both himself and his machine.

To encourage motor cyclists to take out a complete Policy under Table 3, such policy holders are admitted to full membership of the Auto-Cycle Union at one-half the usual subscription.

The A.C.U. Insurance Policy provides for every contingency, and its terms bring it within the reach of everyone who can run a motor cycle.

It is a straightforward contract, affording exceptionally generous benefits. Its conditions are stated clearly and without ambiguity; and you are invited to compare it in every particular with other policies.

The A.C.U. Policy is issued by the Law Accident Insurance Society, Ltd., a company of the highest standing; who have agreed that in the rare event of a dispute between themselves and a Member of the A.C.U., the decision of the A.C.U. Committee shall be final.

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Telephone: Regent 5350



Write to-day for full particulars of A.C.U. Insurance and Membership.—Fill in the Coupon NOW.



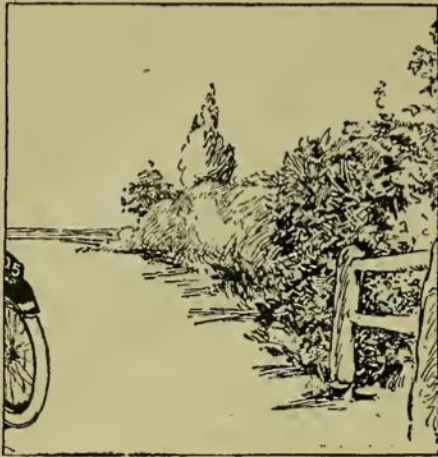
Inquiry Coupon

The Secretary,
AUTO-CYCLE UNION
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LONDON, S.W.1.

Please send me further particulars regarding the advantages of becoming a member of the A.C.U., together with Application form for membership.

Name.....

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"The Motor Cycle," 12 N/19.



It is Coming!

What? The perfect motor bicycle — the machine that overcomes all the objections to motor cycling and includes all the comforts — the 5 h.p.

RALEIGH

FLAT TWIN MOTOR CYCLE

It is no ordinary motor bicycle, but something very special, full of new ideas, things which will set all the motor cycling world talking. The new Raleigh is worth waiting for.

RALEIGH CYCLE CO., Ltd., NOTTINGHAM



Stout Gent : "Excuse me, Sir, can you tell me the quickest way of getting to the Station?"

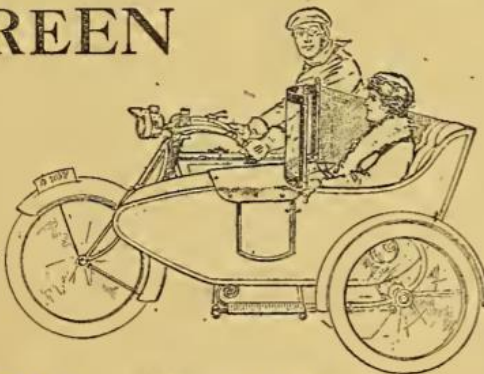
Enthusiast : "Rather ! by far the quickest way to get there or anywhere else is to 'Rudge it !'"



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You
Will
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READY FOR THE ROAD.

Our Aim

To supply a Wind-screen which can be fitted to any Sidecar—by a novice—in a few minutes—and when fitted to give the required and expected service—to fulfil all we claim—and thereby complete the great enjoyment possible only with a Sidecar combination, by protecting the passenger, often of the fair sex, from the varied climatic conditions of wind, rain, and dust, so common in this country.

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"Sales of Government Motor Cycles."

"Quite a buzz of excitement was felt when the Auctioneer announced that he had now come to the 3½ h.p. Sunbeams. One was sold for 57 guineas and one for 56 guineas. Bidding was very spirited for these machines."

Vide "Motor Cycling," Feb. 4th, 1919.

**THE VALUE PLACED BY THE PUBLIC ON SUNBEAM
 MOTOR CYCLES CAN BE ESTIMATED WHEN WAR-
 WORN SECOND-HAND ONES COMMAND SUCH PRICES.**

MAKERS :

JOHN MARSTON, Ltd., 11, Sunbeamland, WOLVERHAMPTON.

London : 57, Holborn Viaduct, E.C., and 157-158, Sloane Street, S.W.

Sunbeam Motor Cycles with Perfect Power Transmission.

The 1920 $3\frac{1}{2}$ h.p. Sunbeam possesses many Innovations and Improvements which cannot be obtained in their Entirety on any other Motor Cycles

1. The Wheels are instantly Detachable and Interchangeable.
2. The Transmission is Weatherproof and Trouble Free.
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4. The Gearbox is a "Sunbeam" Gearbox made at Sunbeamland exclusively for the Sunbeam Motor Cycle.
5. The $3\frac{1}{2}$ h.p. Model will take a Sidecar anywhere.
6. The Bearings of Engine and Gearbox wear almost indefinitely, and the machine has earned the title amongst a large coterie of motor cyclists as the "Rolls-Royce" of the Motor Cycle World.

$3\frac{1}{2}$ h.p. - 130 Gns.

No. 1 Sidecar - 40 Gns.

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IS a Trade Mark but—it's also a symbol!

To every man who rode a TRIUMPH in the War it suggests reliability—comfort and security. He thinks of episodes—blinding along “all out” to get through in time—bumping and bouncing over broken roads—“soloing” through the mud and grease, and then—he realises what the dependability of the TRUSTY TRIUMPH meant to him! Realises what a mechanical failure would have resulted in!

NOW—he's going to ensure that his Peace mount will be a TRIUMPH, by going to his nearest Agent right away.

The moral being—well, can you think of a better machine?

LONDON DEPOT—218, Great Portland Street, W.1
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Triumph Cycle Co., Ltd.,
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Concentrated in One Type.

THE TRIUMPH reputation is built on three solid facts. The TRUSTY TRIUMPH was a pioneer—the father of the big single. From the earliest days the magnificent quality of material and craftsmanship has been jealously maintained. From the first we have concentrated on one type of engine, the no-trouble single.

Those facts explain the present day reputation of the TRUSTY TRIUMPH. They explain why the TRIUMPH has never lost its grip of the market — and **why it never will.**

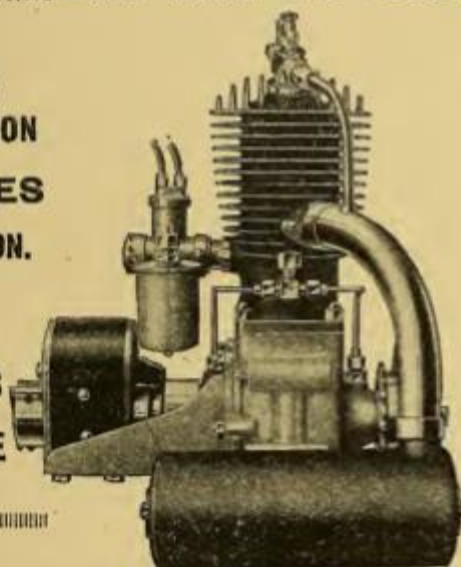
A PROVED TWO-STROKE !

POWERFUL. RELIABLE. ECONOMICAL.

EVERY PART SCIENTIFICALLY CORRECT AND THE HIGHEST CLASS OF MATERIALS—WORKMANSHIP—AND FINISH IN EVERY COMPONENT. MANUFACTURED BY MODERN METHODS—IN A MODERN WORKS—AND UNDER THE CLOSEST INSPECTION—

**PETROL
CONSUMPTION
125 MILES
PER GALLON.**

**DELIVERIES
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NOTE !

Plenty of
Reserve Power.

ANY HILL.

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**NO
OVERHEATING.**

THE 'UNION' ENGINE

MANUFACTURED UNDER WHALEY PATENTED DESIGNS.

WE ALSO MANUFACTURE TO THE TRADE A **TWO-SPEED KICK-STARTER GEAR BOX** OF OUR EXCLUSIVE AND FOOL-PROOF DESIGN. WRITE FOR BOOKLET, &c.

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WOOLER

ENGINEERING CO. Ltd

LONDON.

IN FULFILMENT of our Word in last week's issue, we now have pleasure in giving
a BRIEF SUMMARY of the MANY ADVANTAGES pertaining to the

WOOLER 2 $\frac{3}{4}$ h.p. FLAT TWIN



WRITE TO-DAY for our
ADVANCE LIST, TYPE B,
which contains much to
interest you.

MECHANICAL LUBRICATION with LARGE
SUMP TO COOL THE OIL.

Short Superheated Induction Passages.

Infinitely Variable Gear with Free Engine.

AUTOMATIC BELT TIGHTENING DEVICE

(About 2in. of Belt Adjustment without use of tools).

FRONT AND REAR SPRINGING

DETACHABLE SPARE PETROL TANK

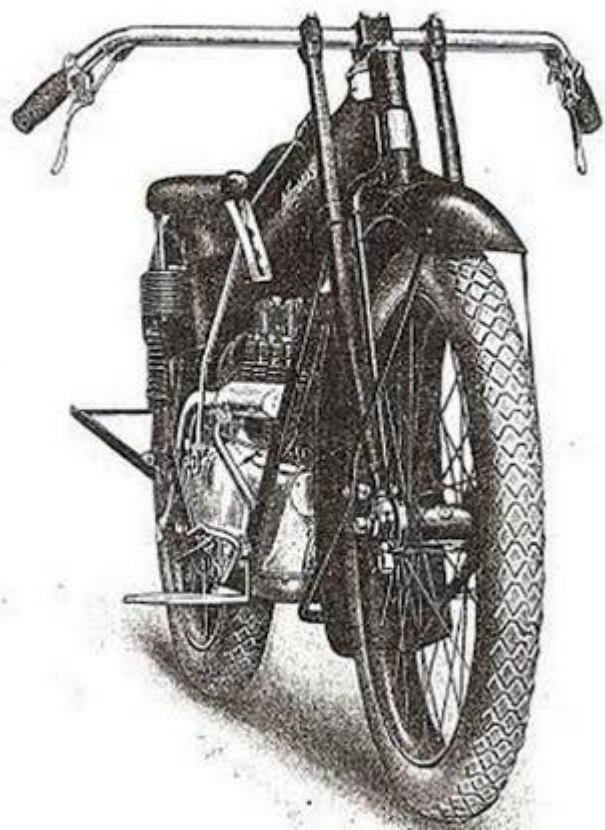
STRONG ALL STRAIGHT TUBE FRAME

DETACHABLE WHEELS, and above all

GREAT ACCESSIBILITY

MANY FEATURES on our New Model are UNIQUE
TO THE WOOLER, and we can justly claim to be the
PIONEERS in the introduction of other Features now
universally recognised as "GOOD PRACTICE," but
this topic and other interesting things will be dealt
with in future issues.

Motorcyklen
Nimbus



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IN TRADATE (COMO)
CICLI E MOTOCICLI

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Stabilimenti ed
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FRERA

MOTO R - 4 $\frac{1}{4}$ HP
MONOCILINDRICA

MOTO S - 8/10 HP
A DUE CILINDRI

PNEUS

DUNLOP

A TRASMISSIONE INTERAMENTE A CATENA

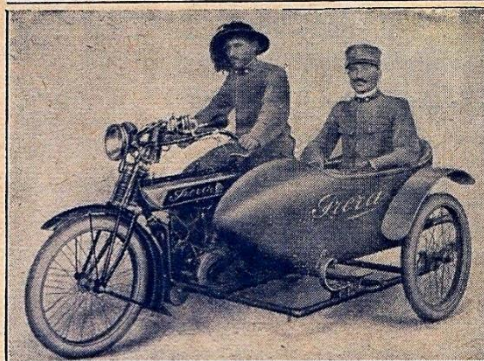
Gruppi Motocarrozzi 8/10 HP { **MODELLI**
" **Motofurgoncini 8/10 HP** { **1919**

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Le massime Onorificenze - Esportazione

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UNO DEI NOSTRI VALOROSI BERSAGLIERI MOTOCICLISTI
CON LA SUA INSEPARABILE **FRERA 2 $\frac{1}{2}$ HP.**

ESPOSIZIONE INTERNAZIONALE
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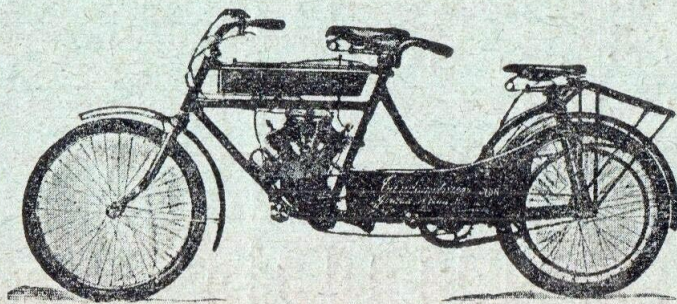
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Le Tandemotorève mixte

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MODÈLE DÉPOSÉ

permet de faire à deux personnes
du grand tourisme revenant à

1 centime 1/2 le kilomètre.

Le Tandemotorève est monté
avec le moteur 2 cyl. 2 HP de la Moto-Rève.
Poids total : 48 kgs. - Vitesse maximum en baler : 45 kil.
à l'heure. - Monte toutes les côtes jusqu'à 10 0/0.
Fourche élastique à l'avant.

Demandez la notice
envoyée franco à

M. GIRAUD, CONSTRUCTEUR, 27, COURS MORAND, LYON

Établissements GEORGES LÉVY

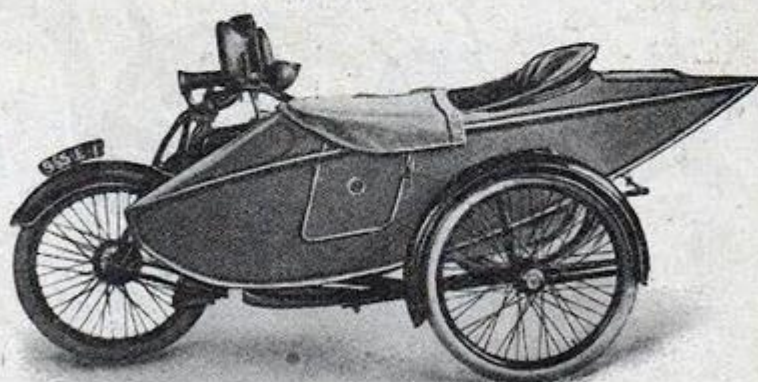
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MOTOCYCLETTES**

:: Sidecar breveté S. G. D. G. ::

ADAPTABLE SUR TOUTES MOTOS

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MAGASIN DE VENTE :
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The Boss of the Solo Mounts

Holder of the Famous
Three-Flag Record

Canada to Mexico
1716 Miles
In 64 Hours 55 Minutes



Price \$325

F. O. B. Milwaukee
Subject to increase by the
amount of any special
tax, Federal or State

Harley-Davidson Motor Co.
Milwaukee, Wis., U.S.A.

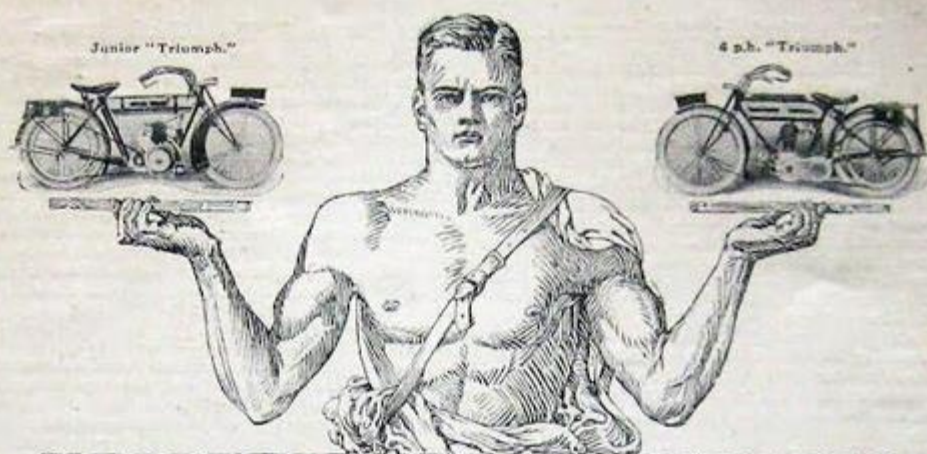
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TITAN TUBING

For Motorcycles, Bicycles, Aeroplanes, Beds and every other purpose for which tubing is required. Seamless or Butt Joint, Round or Square Section. Let our Engineering Dept. confer with you. You WILL get better tubing. You may save money. Write us.

EMPIRE ART METAL COMPANY
THE DRAWN TUBING AND SHAPE PEOPLE
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TRIUMPH

At Olympia

Stand 96

Visit Stand 96 and see "The Father of the Big Single"—the Trusty Triumph. The Triumph was the machine that made history fifteen years ago. No-trouble motor cycling became possible for the first time when the All-Triumph "Single" was introduced. Fifteen years of experience concentrated on one type of engine have only served to improve the Trusty Triumph. The 1920 Triumph is still the acknowledged masterpiece of the day.

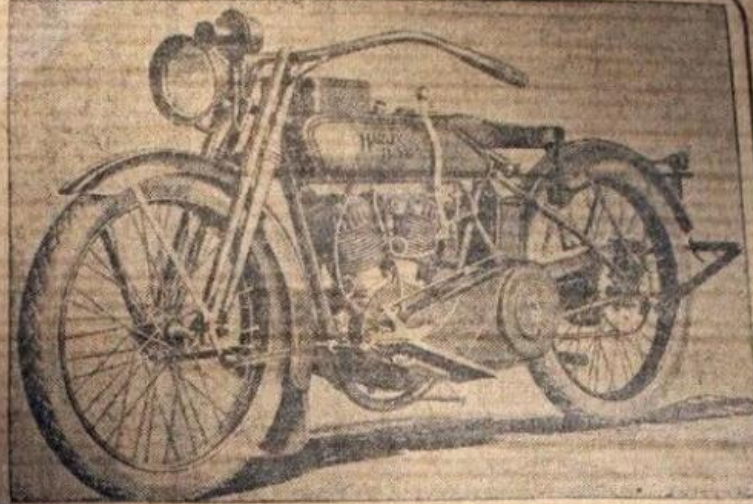
See it at Stand 96.

TRIUMPH CYCLE CO., Ltd., COVENTRY.

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Also at LEEDS, MANCHESTER and GLASGOW.

Why Walk or Be a Strap Hanger on Crowded Street Cars
When This Wonderful HARLEY-DAVIDSON will walk and hang for
you with less expense, worry and time

If you have a friend who was in France or in camp in the U. S. A. during the war, ask them about the wonderful service of the Harley-Davidson.



Ask the men who were in the service, they know.

Order now, next month may be too late.

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